

AR03









# Highlights of 1980

Principal Highlights	1980	1979	1978
Total shipments of aluminum products ( <i>'000 tonnes</i> )	1,588	1,532	1,597
Shipments of fabricated products ( <i>'000 tonnes</i> )	1,055	1,036	982
Total sales and operating revenues ( <i>U.S. \$ millions</i> )	5,215	4,390	3,711
Net income ( <i>U.S. \$ millions</i> )	542	427	297
Capital expenditures ( <i>U.S. \$ millions</i> )	752	495	333
Number of employees ( <i>at end of year—thousands</i> )	67	65	63
Financial, at end of year ( <i>U.S. \$ millions</i> )			
Working capital	1,373	1,275	1,113
Net fixed assets and investments	2,767	2,168	1,865
Long-term debt	910	759	691
Common shareholders' equity	2,463	2,030	1,688
Return on average shareholders' equity (%)			
Historical cost method	24	23	19
Current purchasing power method	12	10	9
Common shares ( <i>U.S. \$</i> )    After giving effect to the 2 for 1 subdivision of shares on 31 March 1980			
Net income per share ( <i>including extraordinary gain</i> )			
First quarter	1.83	1.19	.76
Second quarter	1.70	1.35	.97
Third quarter	1.63	1.29	.86
Fourth quarter	1.54	1.45	1.08
Total for the year	6.70	5.28	3.67
Dividends per share for the year	1.35	1.05	.78
Number of common shares outstanding ( <i>at end of year—thousands</i> )	80,893	80,893	80,893

## Annual Meeting

The Annual Meeting of the shareholders of Alcan Aluminium Limited will be held on Thursday 26 March 1981, at 10 a.m., in the Chateau Champlain Hotel, Montreal.

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Directors

**Sonja I. Bata**  
Toronto—*Director of Bata Limited, International footwear manufacturers*

**David M. Culver**  
Montreal—*President and Chief Executive Officer*

**Nathanael V. Davis**  
Osterville, Massachusetts  
*Chairman of the Board*

**Dr. Lawrence E. Fouraker**  
Boston—*Professor of Business Administration, Harvard Business School*

**Dr. Roger Gaudry, C.C.**  
Montreal—*Director of various companies*

**John H. Hale**  
Montreal—*Executive Vice President*

**Lionel P. Kent**  
Montreal—*Director of various companies*

**Paul H. Leman, O.C.**  
Montreal—*Director of various companies*

**Franklin S. McCarthy**  
Brockville, Ontario  
*Director of various companies*

**Patrick Jean Jacques Rich**  
Montreal—*Executive Vice President*

**Hon. James Sinclair, P.C.**  
Vancouver—*Retired*

**Eric A. Trigg**  
Montreal—*Executive Vice President*

**William O. Twaits, C.C.**  
Toronto—*Director of various companies*

**Eric F. West**  
Lyme, Connecticut  
*Executive Vice President*

**Dr. Joachim Zahn**  
Munich—*Former Chief Executive Officer of Daimler-Benz A.G.; Director of various companies*

**Audit Committee**  
Lionel P. Kent, *Chairman*  
Paul H. Leman, O.C.  
Franklin S. McCarthy  
Dr. Joachim Zahn

**Personnel Committee**  
William O. Twaits, C.C., *Chairman*  
David M. Culver  
Dr. Lawrence E. Fouraker  
Dr. Roger Gaudry, C.C.  
Hon. James Sinclair, P.C.

Officers

**Nathanael V. Davis**  
*Chairman of the Board*

**David M. Culver**  
*President and Chief Executive Officer*

**John H. Hale**  
*Executive Vice President and Chief Financial Officer*

**Patrick Jean Jacques Rich**  
*Executive Vice President*

**Eric A. Trigg**  
*Executive Vice President*

**Eric F. West**  
*Executive Vice President*

Functional Vice Presidents

**Ronald C. Bales**  
*Vice President, Corporate Planning*

**A. A. Bruneau**  
*Vice President, Chief Legal Officer and Secretary*

**Duncan C. Campbell**  
*Vice President, Corporate Projects*

**David H. Clarke**  
*Vice President, Personnel*

**W. O. Codrington**  
*Vice President, Basic Raw Materials*

**Harold Corrigan**  
*Vice President, Corporate Relations*

**D. G. Cuthbertson**  
*Vice President, Finance*

**H. Stewart Ladd**  
*Vice President, Organization and Management*

**H. Stuart McEvoy**  
*Vice President, Metal Planning and Administration*

**Roger Phillips**  
*Vice President, Research, Technology and Engineering*

**Allan A. Hodgson**  
*Treasurer*

**Murray D. Lester**  
*Director of Energy Resources*

Officers

**Field Vice Presidents**  
**C. W. Birkett**  
Hong Kong  
*Vice President, Asia*

**A. F. Black**  
Rio de Janeiro  
*Vice President, Latin America*

**J. B. Clarkson**  
Sydney  
*Vice President, South Pacific*

**Roy A. Gentles**  
Cleveland  
*Vice President, North America, Fabricating and Sales*

**Norman F. Macfarlane**  
Montreal and Tokyo  
*Vice President, Japan and Korea*

**R. E. Rosane**  
Aix-en-Provence, France  
*Vice President, Africa and Middle East*

**Ihor Suchoversky**  
Geneva  
*Vice President, Europe*



## The Chairman's Message

Alcan's Board of directors 1980. From left to right, front row: Prof. Dr. Joachim Zahn, Lionel P. Kent, Sonja I. Bata, Nathanael V. Davis, Chairman, David M. Culver, Hon. James Sinclair, Franklin S. McCarthy. Second row: W. O. Twaits, Patrick Jean Jacques Rich, Eric A. Trigg, John H. Hale, Dr. Roger Gaudry, Dr. Lawrence E. Fouraker, Eric F. West and Paul H. Leman.



The international aluminum industry—including Alcan—achieved a relatively good passage through the year 1980. Although recession conditions emerged in the second half in varying degrees in Europe, Japan and North America and resulted in some declines in aluminum demand, the impact so far has been much less severe than in the recession of 1974-75 when earnings fell drastically.

The difference this time lies in the lower levels of world aluminum inventories when the downturn arrived, and therefore a better balance between supply and demand. As a consequence, the level of aluminum prices moved more in keeping with the needs of an industry which must be healthy if it is to improve its facilities and grow.

Whether the decline in free-world demand, which was about 8% in the second half, will continue long into 1981 remains to be seen. The directors are, however, pleased with Alcan's improved performance in 1980. The basic strengths built into the Company's worldwide system were demonstrated in the new high levels of earnings and sales.

In the second quarter of 1980 the quarterly dividend was increased from 30 cents to 35 cents per share and the Board of directors today authorized a further quarterly increase to 45 cents, payable 12 March.

As outlined in this report, Alcan has programs for significant development, involving capital investments of considerable size. In general terms, if the current level of profits can be maintained, the capital program should prove manageable. The directors have the program under constant review to ensure that it is based on conditions as sound as can be foreseen in a complex international environment.

The Board met ten times during the year, including one meeting in Australia and one in the

Saguenay region of Quebec when the directors were able to familiarize themselves with the Company's activities, management structure and senior personnel in these important areas. The Personnel Committee of the Board and the Audit Committee held numerous meetings dealing with their responsibilities, which are defined in the Proxy Statement. Board attendance at meetings continued to be extremely high and called for a significant commitment of time on the part of all Board members.

As more fully explained in the proxy solicitation statement, shareholders will be asked at the annual meeting to authorize a share option plan for key management personnel. They will also be asked to authorize a stock dividend plan which, if implemented, will form part of a package now under development, permitting shareholders to elect to receive stock dividends, to re-invest cash dividends in additional shares and to purchase shares directly from Alcan for cash.

Under the Board's retirement rules, the Hon. James Sinclair, P.C. will not be a candidate for re-election at the annual meeting. Mr. Sinclair has served as a director since 1966 and his extensive business experience and sound counsel have been highly valued by the Board. To fill this vacancy the name of the Hon. John L. Nichol, O.C. will be proposed for election at the annual meeting.

The directors commend the efforts of the managements and staffs at all levels in bringing the Company through a successful year and in positioning it for further advance.

Montreal, Canada  
5 February 1981

Nathanael V. Davis  
Chairman of the Board



## The President's Message



Alcan's earnings from its worldwide operations and sales, and from its investments in partially-owned companies, rose strongly to U.S. \$542 million in 1980. This was due to improved results in Canada, Latin America, Asia, the South Pacific and Africa which more than offset declines in Europe and the United States.

Earnings showed an increase for the fifth consecutive year, and dividends were raised for the fourth consecutive year.

Consolidated tonnages of aluminum sold, including record volumes of fabricated products, were up by 4%, despite a decline of about 6% in total world demand. Total revenues exceeded \$5 billion for the first time, reflecting the higher sales volume and improved price realizations.

The return on average shareholders' equity was 24%, which was somewhat above the 23% in 1979 but, if adjusted for the impact of inflation on both profits and assets (as shown on page 40), a more realistic amount for rate of return is 12%. This is a satisfactory rate, but is also necessary in view of the heavy capital investments the Company must make if it is to reinforce its productivity, provide better jobs and meet anticipated demand for its aluminum products.

Particularly significant was the increase in earnings to U.S. \$421 million, before preferred dividends, in Aluminum Company of Canada, Ltd which embraces Alcan's smelting, chemical and transport operations in Canada, its fabricating activities in Canada and the United States, and alumina production in Jamaica. This subsidiary had shown an uneven earnings record for several years arising from a combination of market recession in 1974-75 and work stoppages in 1976 and 1979.

In 1980, with steady smelter operations at full capacity for the whole year, and with improved margins in most products, the North American system performed closer to its potential and was responsible for 75% of Alcan's net income. At the same time it disbursed \$583 million in payrolls and fringe benefits, provided \$1 billion in exports from Canada, incurred \$193 million in cash income taxes, and reinvested \$453 million in new or upgraded plant facilities.

The lengthy program of developing Alcan's international base also showed its benefits last year with net income of \$133 million outside Aluminum Company of Canada, Ltd, despite a decline in European earnings. Income in Latin America was up 62% at \$62 million, in Asia and the South Pacific up 38% at \$50 million. Investments and operations in Africa doubled their return to \$8 million. Net income in Europe (excluding certain non-recurring items of \$40 million in 1979) declined by 48% to \$21 million due to the recession in some countries, mainly the United Kingdom. These Area results include the income from equity-accounted companies in Japan, Europe, Latin America and Africa which in total reached \$25 million, up 19%.

Production of primary aluminum by subsidiaries was at a new high level of 1,302,000 tonnes, up 9% from the previous high, in spite of shortages of rainfall and power in India which caused production to fall 60,000 tonnes below rated capacity. New smelter capacity in Canada and Australia came into production in the closing months of the year.

Alcan's continuing policy of fabricating expansion resulted in record consolidated sales of 1,055,000 tonnes of fabricated products or 66% of total sales volume. Sales revenues were \$3.26 billion. Associated with their vital contribution in developing markets for aluminum products and outlets for ingot, it was noteworthy that virtually all fabricating companies, including those in so-called 'pioneer operations', yielded a profit in 1980. Rates of return were mixed, but it is clear that the 20-year effort to strengthen the fabricating base has proved beneficial, and increasingly profitable.

Alcan's Management Committee. From left to right: Eric A. Trigg, Patrick Jean Jacques Rich, David M. Culver, President, Eric F. West, John H. Hale.



At the same time, we hold to our traditional role as suppliers of primary ingot to independent fabricators in world markets. Last year, ingot sales tonnage increased by 7% to 533,000 tonnes, and this could have been larger in the first nine months if supplies had been available.

Also to be noted are the substantial third-party sales of \$841 million in "all other products", chiefly alumina, chemicals and non-aluminum metals, which increased by 19% and showed a gross profit of \$201 million.

Markets

Although it faces in varying degree a number of problems, such as cost inflation, economic cycles in consuming industries, energy and environmental concerns, and wide fluctuations in foreign exchange rates, the international aluminum business appears to be weathering the storms better than most other metals. Much of the credit must go to the unique qualities of the metal itself, which make it adaptable to the changing needs of a changing world. Aluminum's ability to be made strong, while remaining light in weight, makes it increasingly useful in transport and automotive vehicles to conserve expensive fuel. Its unique advantages in recycling, at an energy cost only 5% of that required for primary smelting, help its growing use in many products, particularly beverage containers. Alcan is adhering to its policy of staying close to the ultimate aluminum user and pushing market development through better technology at all stages of production.

For these reasons and because of Alcan's basic strengths, the onset of recession in 1980, first in the UK, then in the USA and later in Continental Europe and Japan, did not seriously affect the Company as a whole. Although free-world demand for primary aluminum declined by about 6% from 1979, with the

greater part of the drop in the second half, Alcan had entered the year with a strong order book and low inventories. The impact of lower demand in the second half had been cushioned earlier by greater emphasis on sales of sheet for containers in the United States and continuing strength in numerous smaller markets.

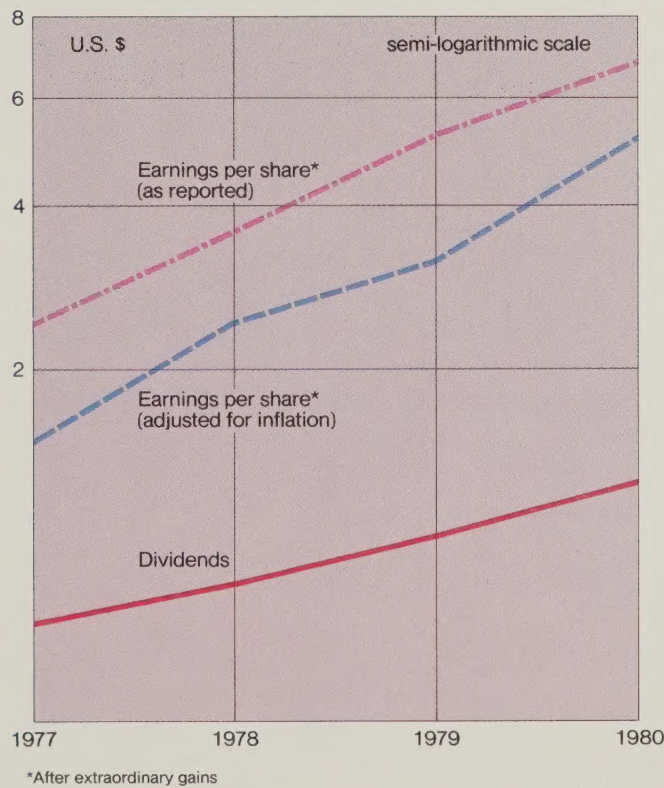
The North American markets showed signs of partial recovery at the end of the year but the weakness continued in Europe and Japan, and it appears that in the early months or first half of 1981 business will be somewhat more difficult than in 1980. Smelter operating rates around the world are at high levels (about 94% of effective capacity) and it seems likely that surplus inventories of primary aluminum will rise substantially unless growth in demand resumes promptly or production rates are reduced.

However, year-end surplus inventories in the free world are estimated at just over one-fourth of the highest level they reached in the last recession (2.7 million tonnes in May 1975), and it is unlikely that a problem of equal size will recur in view of today's elevated production costs for many producers and the higher carrying charges for inventories. Having sold in 1980 practically all the primary aluminum it produced or acquired, Alcan's year-end inventories were at normal working levels for the current rate of business.

Looking beyond the present downturn, Alcan is planning for continuing growth in the demand for its products in the Eighties, although probably not at the high rates experienced in the earlier decades. The inflated capital costs of new facilities, and higher costs of new energy supplies and of most raw materials, require higher prices for the new aluminum to be produced. But higher prices could involve a lessening in aluminum's ability to enter new uses, or retain its market share in present uses. To keep the metal competitive, care will be taken to ensure that new facilities are the most economic that can be established.

For the same reason, control of production costs in existing facilities is also a matter of high priority. Escalation of labour costs, fuel oil and other basic materials and transportation costs is a matter of serious concern which receives the constant attention of management.

Alcan's strengths reside in our diversified international base and management, our well-balanced raw materials position, our market access as experienced ingot sellers and as fabricators, our relatively





## The President's Message



Alcan's Functional Vice Presidents in 1980, from left to right: David H. Clarke, François Senécal-Tremblay (Vice President, Corporate Planning), Murray D. Lester (Director of Energy Resources), H. Stuart McEvoy, Harold Corrigan, Duncan C. Campbell, D.G. Cuthbertson, H. Stewart Ladd, Roger Phillips, A. A. Bruneau, W. O. Codrington.

favourable cost structure in our established smelters and a strong balance sheet. These factors, plus an emphasis on improved technology and an ability to implant it in operations new and old, are the keys to future success.

### Capital Program

In 1979 and 1980, with real economic earnings reaching an improved level, Alcan has been able to step up its capital expenditures for expansion of capacity, essential upgrading of older facilities and improved environmental controls. In general, the policy is to pursue balanced growth in all sectors of the business, with some emphasis on our smelting capacity which grew by only 30% in the decade of the Seventies, or just half the 60% growth in demand. Alcan has good expansion opportunities for smelting in Canada, Brazil and Australia, based to a considerable degree on foundations established earlier.

Fixed capital expenditures and new investments reached a total of \$752 million, up 52% from 1979. Of this total, some \$453 million, or 60%, was invested in the North American area, particularly Canadian smelting. With the gathering momentum on several major projects, and on many smaller environmental and operating improvements, total capital expenditures of about \$950 million are projected for 1981. Of these, more than one-third will be required in Canadian smelting operations, and sizable undertakings in Australia, Brazil and Europe are included. However, there is flexibility in the program and some of the projects could be deferred by management decision or delayed by circumstances beyond our control. Further discussion of the capital program is contained later in this report.

The highly capital-intensive nature of this business is illustrated by these large outlays which are carefully screened but are clearly needed to maintain productivity, achieve cost savings and provide forward momentum. To support this, it is essential to maintain the improved level of earnings.

### Brazil

Construction of a second potline at the Aratú smelter, near Salvador in Northeast Brazil, progressed last year and will be completed in 1982, doubling its capacity to 58,000 tonnes. A shortfall in our Brazilian hot-rolling capacity will be overcome with the addition of a world-scale hot mill at an estimated cost of \$150 million. Work on this project will begin in 1981 at Pindamonhangaba between São Paulo and Rio de Janeiro, where Alcan opened a high-speed cold-rolling complex in 1977.

### Smelting in Canada

The availability of hydroelectric energy, and the presence of our experienced employees, management and technical staffs, are the basic strengths on which Alcan will build in pursuing a vigorous smelter modernization and expansion program in Canada through the decade of the Eighties.



Such a program would support a continuing active development of the growing domestic market, while assisting the Company to serve the demand in those external markets where growth in aluminum production appears unlikely because of the constraints on available energy for the smelting of the metal.

We will thus promote economic growth and job creation in Canada and maintain Alcan's position as an internationally competitive major exporter from Canada to many countries.

In Quebec, the new Grande Baie smelter has commenced production and by mid-year the first pot-line of 57,000-tonne annual capacity will be in full operation. Construction is also progressing on two identical additional potlines which are scheduled to enter production, one by the end of 1981 and the other by the end of 1982.

When the 171,000-tonne project is completed, total investment will have reached about \$500 million and more than 650 permanent jobs will have been created, together with the significant multiplier effect in the economy of the Saguenay region.

In Manitoba, where hydroelectric power has been developed by provincial agencies with a view to future industrial growth and where more can be developed, Alcan, with the encouragement of the government, is conducting a pre-feasibility study for the first smelter in that province. This facility would have an annual capacity of about 200,000 tonnes of aluminum, mainly for export. Capital costs, logistical costs of incoming materials and outgoing aluminum, as well as power supply arrangements, are key topics in the study.

In British Columbia, Alcan continues to pursue its extensive studies to determine the conditions necessary for completing its Kemano hydroelectric project, as was envisaged in its 1950 agreement with the province. This agreement led to the Company's initial development of 896,000 kW of energy and its establishment of the Kitimat smelter with present capacity of 268,000 tonnes.

The Company is confident that, working together with biologists and area residents, it can define the scope of a project which will both protect the existing economic base along the river system in the area and allow the development of further economic aluminum smelting, while meeting environmental stewardship requirements. Clearly, this important water resource must be shared with regional economic needs such as fisheries, agriculture and the communities they support.

### Smelting in Australia

A full-scale feasibility study is almost completed for a new smelter in Queensland, Australia, to be based on coal-fired power for which arrangements have been made. If the ownership plan is approved by the Australian authorities, the construction of a first-phase smelter of annual capacity of 100,000 tonnes, to eventually reach 300,000 tonnes, will be ready for consideration by Alcan's directors in 1981. This smelter would be intended to serve export ingot markets, particularly Japan and Southeast Asia, since Alcan's ingot requirements for the growing domestic market in Australia are covered by its first smelter in New South Wales now under expansion.

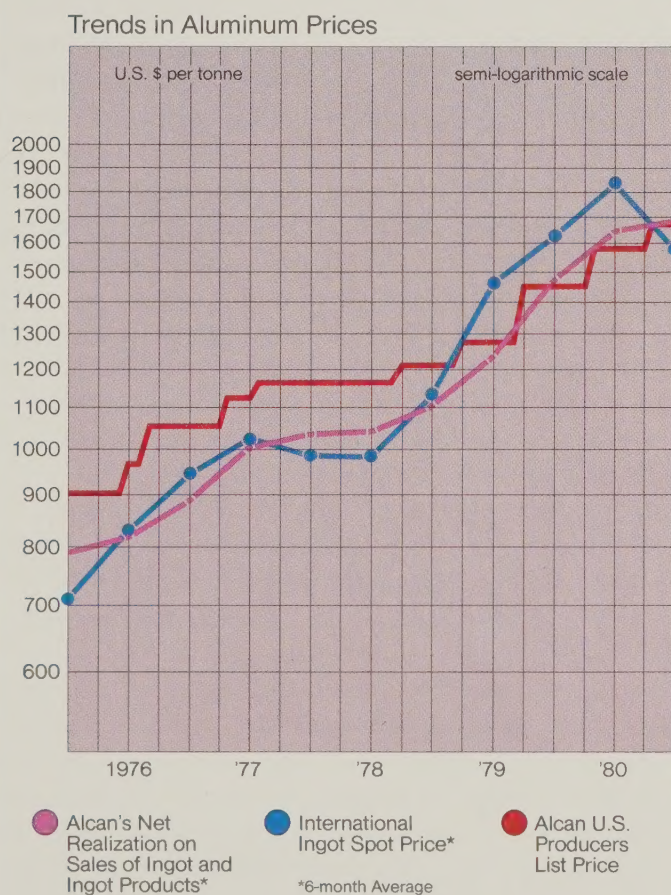
### Proposed UK Share Exchange

The directors today decided to offer to buy out the 22% minority shareholdings in Alcan Aluminium (UK) Limited, at a price of 120 pence per share, or a total of some £12 million. The UK shares would be exchanged for Alcan shares valued at the New York market price and exchange rate prevailing at the time.

The Alcan Board believes that the future development of the British subsidiary can be better assured as a wholly-owned member of the Alcan group, and that the interests of the minority shareholders will be better served if they exchange their shares for Alcan Aluminium Limited shares as proposed.

### Technology and Research

At the heart of all Alcan's endeavours is the recognition that ours is a high-technology business. The continuous improvement of technology and the upgrading of our abilities to transfer that technology successfully between areas are of great importance to the success of a multinational corporation and its acceptance in new situations.





# The President's Message

To serve these ends, Alcan looks to 1,200 men and women in technology and engineering staffs at its international headquarters in Montreal and at four laboratories in Canada, the United Kingdom and Spain. Additional technical staffs are employed in the major operating units, and there is also close integration with research activities in Japan and India.

The research and development thrust is in three main directions: raw materials, aluminum production and subsequent fabricating processes, including product development. In all three fields, emphasis is on both improving present processes and on the development of new or non-conventional alternatives. An experimental engineering centre, built in the Saguenay region of Quebec at a cost of \$10 million for development of smelting technology, will open in 1981. Energy conservation is also a subject of major effort at several locations.

Alcan's research and development expenditures in 1980 were \$47 million, an increase from \$34 million in 1979. Further increases will be required.

## Employees

Industrial relations in all major operations in 1980 were relatively untroubled compared with the preceding year. A new 30-month contract with the employees' union at the Kitimat smelter in British Columbia was signed in November and the contract at three Quebec smelters has been renegotiated for an additional period of 16 months, until the end of 1983. Negotiations with the bauxite and alumina production employees in Jamaica are currently under way. All operating managements are giving renewed emphasis to developing sound industrial relations both over the near-term and longer range.

Alcan's management is convinced that the strengths and opportunities mentioned earlier in this message would have little value were it not for the efforts and skills of our 67,000 employees, with specialized experience in our various types of business. One of Alcan's corporate objectives is "to maintain an organization of able and committed individuals in the many countries in which we operate and to provide opportunities for growth and advancement both nationally and internationally". We are grateful for the contribution of employees in working towards this objective.

## Management

The management requirements in a growing, and increasingly complex, international business have been recognized by the strengthening of existing staffs and the addition of certain functions at Alcan's headquarters in Montreal. Capacities for energy studies, ingot sales management and corporate affairs management have been increased.

The management of interdependencies on an international basis has also been reinforced through the nomination of the Area General Managers in key headquarters around the world as field vice presidents of the parent company.

## The Future

Alcan is preparing itself to meet the opportunities and problems of the 1980s. Increasingly, in government and business circles of the world, there appears to be recognition that the sound and economic development of the aluminum industry must be approached with an international viewpoint because of the geographic dispersion of its raw materials supply, energy sources and markets.

With its long experience in the international field, Alcan is well-positioned with dispersed management staffs and operating bases to develop the opportunities as elaborated by its process of integrated strategic planning. But the only true authority to support such development is excellence of technology and of marketing skills, management ability and ethical behaviour. These are Alcan's watchwords for the years ahead.

Montreal, Canada  
5 February 1981

David M. Culver  
President and  
Chief Executive Officer



# Production, Sales and Raw Materials

## Primary Aluminum (in thousands of tonnes)

### Subsidiaries

	Production 1980	Rated Capacity End 1980	Planned Capacity at End of Year	
			1981	1982
Canada	918*	961**	1,018	1,075
United Kingdom	124	125	125	125
Brazil	88	88	98	118
Australia	70	90†	90	112
India	58	118	118	118
Germany	44	44	44	44
	1,302	1,426	1,493	1,592

\* Includes 45,000 tonnes toll-smelted for a related company (see page 13).

\*\* Includes 57,000 tonnes of new capacity which entered partial production December 1980.

† Includes 22,500 tonnes of new capacity which entered partial production in the third quarter of 1980.

### Related Companies

Alcan holds a 50% equity in Nippon Light Metal Company, Ltd, Japan, which had a capacity of 198,000 tonnes at the end of 1980. Alcan also holds a 42.5% equity in Empresa Nacional del Aluminio, S.A., Spain, with a capacity of 126,000 tonnes at the end of 1980 and which, in turn, owns 55% of the 180,000-tonne San Ciprian smelter.

## Consolidated Sales of Aluminum by Markets (thousands of tonnes)

	1976	1977	1978	1979	1980
Canada	211	220	220	241	231
United States	352	374	450	402	461
Latin America	115	116	121	145	140
European Economic Community	408	364	382	434	424
Asia and South Pacific	216	185	335	255	280
All Others	72	59	89	55	52
	1,374	1,318	1,597	1,532	1,588

### Basic Raw Materials

Bauxite, the basic raw material from which aluminum is derived, is mined by Alcan subsidiaries in Jamaica, Brazil, India, Malaysia and France. It is also acquired through Alcan's equity interest in consortium mining companies in Guinea and Brazil and by purchase from third parties.

Alumina, or aluminum oxide, is the intermediate product between bauxite and aluminum and is extracted from bauxite by a chemical process. Alcan operates alumina plants in Jamaica, Brazil and India, adjacent to the mining operations in those countries. The Company also operates two alumina plants in Quebec, Canada, supplied principally with bauxite from Guinea and Brazil. Alcan holds an equity interest in Queensland Alumina Limited in Australia and in the new San Ciprian alumina plant in Spain.

The alumina produced in Brazil, India and Spain is consumed by Alcan's affiliated smelters in those countries. The Australian alumina is shipped to British Columbia and also supplies Alcan's smelter in Australia. Jamaican alumina is supplied to Alcan smelters in Canada and Europe and is sold to third-party smelting companies.

### Mining – Operating Statistics 1980

#### Proved bauxite reserves at beginning of year

(millions of crude tonnes)

Subsidiaries	252
Alcan's share of related companies	68
	320

#### Total weighted average aluminum content\*

Subsidiaries	27%
Alcan's share of related companies	31%

#### Bauxite mined (millions of crude tonnes)

Subsidiaries	5
Alcan's share of related companies	4
	9

#### Primary aluminum produced by subsidiaries

(millions of tonnes)	1.3
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\*The amount of aluminum extractable is always less than the total aluminum content, varying according to the nature of the bauxite, the process technology employed to extract the intermediate product, alumina, and the alumina plant efficiency.



## Japan

Companies 50% owned  
(100% basis—U.S. \$ millions)

Revenues	\$1,701
Assets	\$2,222
Capital Employed	\$ 841
Net Income	\$ 19
No. of Employees	12,000

## Canada and Caribbean

(U.S. \$ millions)

Revenues	\$2,162
Assets	\$2,422
Capital Employed	\$1,941
Net Income	\$ 405
No. of Employees	23,000

## United States

(U.S. \$ millions)

Revenues	\$1,360
Assets	\$ 697
Capital Employed	\$ 521
Net Income	\$ 33
No. of Employees	5,000

## Asia and South Pacific

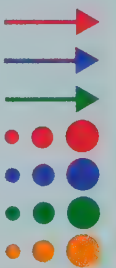
(U.S. \$ millions)

Revenues	\$623
Assets	\$635
Capital Employed	\$427
Net Income	\$ 63
No. of Employees	12,000

## Alcan Operations by Areas 1980

Main plant locations — Subsidiaries and Related Companies  
(Financial details on page 27)

- International bauxite movements
- International alumina movements
- International aluminum ingot movements
- Bauxite locations
- Alumina plant locations
- Smelter locations
- Fabricating plant locations







### Europe and Africa

(U.S. \$ millions)

Revenues	\$1,701
Assets	\$1,394
Capital Employed	\$ 926
Net Income	\$ 29
No. of Employees	17,000

### Latin America

(U.S. \$ millions)

Revenues	\$448
Assets	\$575
Capital Employed	\$418
Net Income	\$ 63
No. of Employees	10,000







## Review of the Year

Alcan's new Grande Baie smelter in Quebec will reach annual capacity of 57,000 tonnes of aluminum by mid-year 1981 and 171,000 tonnes by the end of 1982. In the background, the Saguenay River and Company's deep-water terminal at Port Alfred.

### Canada—Smelting

Alcan's Canadian smelters produced a record 918,400 tonnes of primary aluminum in 1980 (709,200 tonnes in 1979) including 45,000 tonnes toll-smelted in each year for Alcan's related company in Japan, but not included in consolidated sales.

Total shipments of aluminum and chemical products by Alcan Smelters and Chemicals Ltd produced revenues in excess of \$1.4 billion.

In December, Canadian smelting capacity was increased with the start-up of the first half of the first 57,000-tonne potline at Grande Baie, Quebec. The line is being brought on stream gradually and should reach full production before July 1981.

Construction on the second and third phases of the Grande Baie smelter proceeded well during the year and it should reach its full productive capacity of 171,000 tonnes of aluminum in late 1982, raising the Company's Canadian rated capacity to 1,075,000 tonnes.

Modernization programs, designed primarily to improve working conditions and energy use efficiency, continued at all facilities, bringing total capital expenditures to U.S. \$336 million. At Kitimat, B.C., the installation of Sumitomo technology on half a potline was completed and testing commenced with a view to total adaptation of the plant, to achieve energy savings and improve environmental conditions.

In Jonquière, Quebec, the first of a two-phase program for a new direct chill-casting centre at the Arvida smelter was brought fully on stream, providing additional ingot casting capacity.

At the neighbouring Vaudreuil chemical complex, work started on the installation of three energy-efficient fluid flash calciners to replace the 10 rotary kilns in use since the early 1940s at the 1,225,000-tonne-per-year alumina facility. In addition, approval was given for the modernization of the precipitation circuits at Vaudreuil to improve productivity and product quality.

Authorization was also given to proceed with the construction of a new aluminum fluoride plant in Jonquière, to replace the present one which has been in operation since 1940 and has become environmentally unacceptable.

At Kitimat, B.C., installation of the replacement carbon paste plant proceeded towards its scheduled mid-1982 start-up.

Effective 23 October, the employees' union and the management at Kitimat signed a new collective agreement providing for a 34.5% wage increase and improved benefits over a 30-month period. The new contract will expire in April 1983.

In February 1981, an agreement in principle providing for wage increases was reached with the union at three of the four Quebec smelters, and for an extension from September 1982 until December 1983 of the collective agreement which had been signed in 1979. A similar offer was made at the fourth smelter.



Executive Committee, Aluminum Company of Canada, Ltd. From left: Roy A. Gentles, Executive Vice President, North American fabricating and sales; Sanford M. Treat, Jr., Vice President, Canadian fabricating and sales; W.J. Rich, Vice President, British Columbia; Patrick Jean Jacques Rich, President and Chief Executive Officer; Douglas M. Ritchie, Vice President, Canadian Smelting and J. Jacques Gagnon, Senior Executive Vice President. (Absent: R.F. Sharratt, Executive Vice President, Finance, and Treasurer).

### North American Fabricating and Sales

During 1980, Aluminum Company of Canada, Ltd implemented a program to integrate the management of fabricating operations in Canada and the United States. This integration will result in significant benefits to both the U.S. and Canadian fabricating businesses through a more effective utilization of joint facilities, capital, research and development, and personnel.

Total sales tonnage and revenues of the North American fabricating and sales area again set new records but results were tempered in both countries by recessionary pressures.

#### Canada

Alcan Canada Products Limited, which operates 28 plants across Canada to produce semi-fabricated and finished products, had sales revenues of \$713 million in 1980, up 12% from 1979 despite a decline in total shipments in Canada to 231,000 tonnes from 241,000 tonnes. In addition, 24,000 tonnes of fabricated products were exported to other Alcan companies and third parties.

In the recessionary Canadian domestic market where total aluminum demand declined about 13%, sales of rolled products rose in the packaging market but were offset by lower volumes in the building, transportation and industrial markets. The national decline of 18% in new housing starts was mainly responsible for a modest decline in total sales of building products, despite strong demand in British Columbia. Four new distribution centres were opened in Ontario and Quebec.







## Review of the Year

The Trombetas bauxite project in the Amazon region of Brazil, the most important new world source of bauxite, had its first full year of production in 1980. Alcan holds a 20% interest and received 1.2 million tonnes of bauxite. Upper view, the deep water port on the Trombetas River where ships can load up to 50,000 tonnes. Below, bauxite mine on a plateau, 30 km from the river. (Photo H. Hamilton)

Extrusion and foil products sales were up slightly from 1979 while wire and cables advanced due to strong domestic and export markets.

Sales of ingot products declined slightly on account of weakness in the building and transportation markets. A new foundry alloy batching centre in Guelph, Ontario, with 30,000 tonnes of capacity, began supplying molten metal and foundry ingot to casting plants, mainly for use in lighter-weight automobiles.

Alcan Canada Products invested \$27 million in its continuing program to upgrade and expand facilities for semi-fabricated and finished products.

A new continuous casting machine capable of producing widths up to 215 cm is being installed in Jonqui re, Quebec, which will add 45,000 tonnes of reroll capacity, principally for export. Development work is continuing to expand the product range available from the high-volume continuous-casting process.

A medium-size extrusion press and paint line are being installed in Laval, Quebec. The growing transportation markets offer real opportunities for aluminum due to the metal's energy-saving potential.

A new rod mill is being built in Vancouver, British Columbia, to increase redraw rod capacity by 18,000 tonnes. In Shawinigan, Quebec, new equipment will increase armoured cable strip capacity by 50%. A new cable accessories plant was commissioned in Granby, Quebec.

### United States

Alcan Aluminum Corporation set new records for sales and shipments in 1980. However, net income in consolidation fell from \$48 million in 1979 to \$33 million, reflecting government price restraints in the first quarter which resulted in narrow margins in several major product markets. Sales rose 23% to \$1.4 billion as most major product areas contributed to the increase. Although total U.S. consumption dropped in 1980, Alcan's shipments of aluminum in all forms were 461,000 tonnes, up 15% from 1979, when volume was affected by Canadian smelter strikes that reduced ingot supplies.

Alcan Sheet and Plate Division posted a 73% increase in beverage container sheet sales. However, this was mostly offset by lower volume in other markets and overall sheet shipments advanced by only 1%. A summer heat wave, combined with good customer acceptance of 'FIN255', a new proprietary alloy used in the air conditioner industry, resulted in excellent second half sales of finstock to that industry.

Work started during the year on a \$50 million modernization and expansion program at the Oswego, New York sheet plant. The project will increase

annual hot and cold-rolling capacity by 75,000 tonnes and 20,000 tonnes, respectively, when completed in 1982. Alcan's previously announced plan to install a \$32 million heat-treatment line at Oswego to produce aluminum sheet for the automotive industry is being reviewed in the light of changing circumstances in that industry.

Alcan Building Products Division continued to increase its market share and now ranks as the largest supplier of residential aluminum siding in the U.S. Expansion programs are now under way at the Rome, Georgia and Bradenton, Florida plants to better serve the residential window and door markets.

Alcan Ingot and Powders Division continue to experience good results. Ingot products business was excellent, while chemical sales were strong, particularly in the second half. Demand for spherical aluminum powders used in aerospace applications remained firm, aided by large orders from the defence industry.

Alcan opened its first public beverage can collection centre in Joliet, Illinois in the last quarter of 1980. The centre is located at the site of a secondary smelter, the capacity of which is being doubled to 25,000 tonnes a year. Alcan has further increased its recycling capacity by acquiring a 30,000-tonne-a-year secondary smelter in Greensboro, Georgia. Early in 1981, Alcan will begin operations at a new aluminum powders plant at Joliet.

The Metal Goods service centres had their best year in history as profits rose 20% on a 13% gain in sales. Shipments for all product lines remained at high levels.

Sales and profitability of the Cable Division improved significantly, helped primarily by demand for non-residential aluminum building wire and by better margins for all products. Alcan is now promoting its proprietary 'Stabiloy' building wire which permits ease of installation in residential and non-residential construction.

A highly-automated cable plant at Bay St. Louis, Mississippi came on stream early in 1980 to produce 600-volt underground cable and work is already under way to double its capacity.

### Jamaica

With high smelter operating rates in the free world aluminum industry, the international demand for alumina was likewise strong in 1980 and market prices for alumina rose substantially.

Jamalcan (the joint venture association of the Jamaica government, 7%, and of Alcan, 93%) had a year of good performance with production totaling 1,026,000 tonnes of alumina and shipments of 1,037,000 tonnes. Due to the stronger market and the improved competitive position of the Jamaican industry following the adjustment of bauxite taxation rates in late 1979, the operating rates of the two alumina plants could be raised to their full capacity of 1,095,000 tonnes in the second half of 1980 after several years at 80% or less.







## Review of the Year

Alcan Alumínio do Brasil's high-speed cold-rolling mill at Pindamonhangaba, the largest aluminum mill in Latin America. By 1984, it will be supplied by a new hot mill to be erected on the same site at a cost of \$150 million.

Total shipments of alumina for Alcan, representing 93% of the total, were 964,000 tonnes, an increase of 163,000 tonnes over 1979. Profits were significantly higher.

Essential upgrading of plant facilities required capital expenditures of \$14 million. Planned outlays in 1981 will reach \$21 million, including amounts for starting on a new 'red mud' disposal system at the Ewarton alumina plant which will cost \$20 million over the next two years and eliminate certain ecological problems.

The collective labour agreements between the National Workers' Union and the various bauxite producers in Jamaica expired on 31 January 1981. Negotiations continued after that date under the aegis of the Ministry of Labour.

### Latin America



A. F. Black  
Vice President, Latin America

Economic growth was again recorded in 1980 by all Latin American countries in which Alcan operates, with the exception of Argentina.

Net income for the Area, including consolidated subsidiaries and equity-accounted companies, reached a record \$62 million, up from \$38 million in 1979, as higher earnings were posted by all countries other than Argentina.

Despite 100% inflation and an economy that grew at a slightly lower rate than in 1979, Alcan Alumínio do Brasil's smelter and semi-fabricating operations had an excellent year with record profits. Total aluminum shipments were 98,000 tonnes, up 13% from 1979.

Capital expenditures in Brazil totalled \$58 million, a significant part of which was for the 30,000-tonne expansion of the Aratú smelter in the Northeast region that is scheduled to enter production in 1982. Further expansions of Alcan's facilities were announced during the year, including a \$150 million hot-rolling mill project that is expected to begin production in 1984. The hot mill will be built adjacent to the new high-speed cold mill opened in 1977 at Pindamonhangaba, between Rio de Janeiro and São Paulo. The new mill will help meet growing domestic aluminum sheet demand and assure Alcan's continuing leadership in that country's aluminum fabricating business.

The important Trombetas bauxite mining project in the Amazon region, in which Alcan has a 19% interest, completed its first full year of operation, shipping 2.8 million tonnes of which Alcan received 1.2 million tonnes for its Quebec alumina plants. A study is currently under way to determine if the bauxite facility should be expanded to 10 million tonnes per year from its present capacity of 3.35 million tonnes.

The growth rate in Brazilian demand for aluminum in 1981 may not reach the high levels of preceding years as a result of the government's recent strong measures to contain inflation. Earnings in dollar terms could be lower this year but the longer term prospects for aluminum in Brazil remain promising.

In Mexico, the economy grew by 7.5% and Alcan Alumínio, S.A., in which Alcan has a 49% interest, had another record year. The company plans capital improvement projects of \$32 million to modernize and expand its sheet and foil mills at Tulpetlac, near Mexico City. Mexican demand for aluminum is expected to grow strongly during the 1980s, backed by the country's growing resources in oil and natural gas.

Camea S.A., an Argentinian fabricating company owned by Alcan, experienced a difficult year with poor economic conditions being compounded by import competition and the necessity of further corporate reorganization. Camea registered a loss on operations in 1980 but improved results are expected in 1981.

The smaller companies in Colombia and Venezuela were less successful in 1980 than in the previous year, but operations in Uruguay resulted in a record year.

### Europe



Ihor Suchoversky  
Vice President, Europe

Growth rates in the major European economies, which held up well in early 1980, began to decline in the second half and continued to weaken further at year end. In the United Kingdom, the decline was severe with the manufacturing sector of the economy moving into a deep recession in the second quarter with sharp declines in industrial production. The outlook for 1981 is for the recession to bottom out in the first half, followed by some recovery later in the year.

Reflecting the underlying economic trends, demand for aluminum remained strong through the first half, but then began to slacken in the second half as industrial output fell and customers moved to reduce inventories. Aluminum ingot prices, which had increased during the first half of the year, weakened in the UK in the third quarter and this trend followed







## Review of the Year

A unique accomplishment was the establishment on a single site of an aluminum smelter (left background) and alumina plant (foreground), on the Northwest coast of Spain. Alcan's interest is through Empresa Nacional del Aluminio, S.A. (Endasa).

later in Germany and Italy. Towards the end of the year, prices for semi-fabricated products declined and fabricating margins came under pressure.

Alcan's consolidated sales in the European Area were 450,500 tonnes, down from 460,600 tonnes the previous year, but sales revenues increased by 16% to the equivalent of \$1.7 billion. Consolidated net income was \$25 million compared with net income in 1979 of \$45 million, excluding \$40 million of non-recurring gains in the latter year. Underlying local currency earnings showed mixed results as compared with the previous year.

In France, profits were well up, notably due to good performances by Technal France S.A. (75%-owned) and the aluminum extrusion operations. During the year, Aluminium Alcan de France acquired a 75% interest in Métodécór S.A., the largest anodizing firm in France, and an 88% participation in Extralco S.A., an aluminum extrusion producer.

Profits from German operations were lower than in 1979. Work continues on a major expansion of the casting plant at Nürnberg, Germany which, when completed in early 1981, will allow Alcan Nürnberg to increase its participation in the European market for high-technology castings, particularly for the automobile industry. At Aluminium Norf GmbH (50%-owned) a third cold-rolling mill was successfully commissioned and reached high utilization.

In Belgium, Alcan increased its extrusion and anodizing capacity through the acquisition of International Extrusion N.V. (renamed S.A. Alcan Aluminium Benelux N.V.) in Herentals.

In Italy, good market conditions in the first half enabled Alcan's extrusion and recycling operations to achieve improved results for the year, while in Switzerland, the specialist foil conversion business of Aluminiumwerke A.-G. Rorschach had a good year with strong demand and higher export earnings. An expansion of the foil conversion and printing plant at Goldach, near Rorschach, got under way.

In the UK, Alcan Aluminium (UK) Limited had a difficult year. The impact of low levels of demand was aggravated by inflation and by a strong pound which encouraged import competition and handicapped exports. Operations were profitable in the first half, but losses were incurred in the second half, providing low earnings for the year as a whole. Considerable progress in operating efficiencies was achieved at the Lynemouth smelter and, since mid-year, it has operated close to full capacity. The final stage of a program to upgrade the hot-rolling mill at Rogerstone was completed and good progress was made on a major expansion of the plate heat-treatment facility at Kitts Green that is scheduled for completion in late 1981 at a cost of \$25 million. In spite of overall progress in improving the condition and reliability of plant and equipment,

the outlook for profitability in the UK remains poor. A proposed exchange of Alcan UK shares is discussed on page 7.

In the Republic of Ireland, construction proceeded on the 800,000-tonne-per-annum alumina plant of which Alcan is a 40% owner. The project has experienced construction delays which, with lower than anticipated construction productivity and higher than expected interest rates, inflation and exchange variations, have elevated the estimated cost of completion, now planned in 1983. About 3,000 construction workers are on the site.

Total expenditure on fixed assets and investments in Europe was \$109 million, and included an investment of some \$16 million to increase Alcan's interest in Empresa Nacional del Aluminio, S.A. (Endasa) in Spain to 42.5% from 26.4%. Instituto Nacional de Industria, the Spanish government industrial development body, retains a majority interest in Endasa. Following the increase in Alcan's participation in Endasa, the management of the Spanish concern entered into a close working relationship with that of Alcan in Europe with the intention of benefiting from Alcan's European system while maintaining its leading position in the aluminum industry in Spain.

Planning was initiated for a substantial capital investment program to increase the competitiveness of Endasa's aluminum semi-fabricating operations. The smelter at San Ciprian, which is 55%-owned by Endasa, reached its full operating capacity of 180,000 tonnes in June, producing high-grade ingot with good efficiencies. However, operating costs have severely escalated as a result of increases in the costs of power. The related alumina plant, which came on stream in September, is expected to reach its annual rated capacity of 800,000 tonnes in 1981.

During 1980, further progress was achieved with the Area management energy program, and in 12 months energy savings at 14 Alcan facilities in Europe were the equivalent of about 45,000 tonnes of oil.

### Africa and the Middle East



**R. E. Rosane**  
Vice President, Africa  
and Middle East

In Nigeria and Ghana, where Alcan conducts fabricating operations, economic conditions failed to improve as had been hoped following the 1979 transition in both countries to civilian administrations from military governments. In Nigeria, where the economy continues to be bolstered by increasing oil revenues, it has taken longer than anticipated for

public funds to be translated into actual construction programs. Thus relatively weak demand for building products, combined with technical problems in the early part of the year at the new rolling mill of Alcan

Their Majesties King Juan Carlos and Queen Sofia of Spain (centre) performed the official opening in October 1980. Escorting the Royal party were Sr Pedro Nieto Boedo, president of the Endasa group, and Sra Nieto. On the left: Eduardo Monteiro Monteiro, general manager of the complex.







## Review of the Year

Aughinish Island on the estuary of the river Shannon is the site of a new 800,000-tonne-per-year alumina plant being constructed by Alcan and two other companies. It will process imported bauxite and export the alumina to aluminum smelters in Europe and other areas.

Aluminium of Nigeria Limited, affected Alcan's fabricating operations and resulted in lower than expected levels of profitability and production.

In Ghana, initial steps taken by the incoming civilian government to deal with the difficult financial situation resulted in less foreign exchange available for importing aluminum than had been anticipated. As a consequence, Alcan's fabricating operations were at a low level.

The first stage of a feasibility study directed by Alcan of the potential development of bauxite deposits in the Western region of the United Republic of Cameroon has been completed. A technical report has been submitted to the Cameroon government and is the basis for further geological exploration work currently under way.

In the Republic of South Africa, the economy continued strong and Hulett's Aluminium Limited, in which Alcan has a 24% interest, had excellent results. During the year, a controlling interest in Hulett's Corporation, which owns a majority of Hulett's Aluminium, was acquired by Anglo-American Corporation.

The bauxite mining operations of Compagnie des Bauxites de Guinée, in which Alcan has a 13.77% interest, continued to show improvement in efficiency during the year. An increasing part of Alcan's share of tonnage was shipped to the new San Ciprian alumina plant in Spain, in addition to shipments to Canada.

Alcan continues to evaluate and develop trading and investment opportunities in those countries of Africa and the Middle East which offer significant growth potential.

### India

Another difficult year was experienced by the Indian aluminum industry, including Indian Aluminium Company, Limited, owned 55% by Alcan. Predictably, Indian Aluminium began the year badly due to the continued power reductions resulting from the failure of the 1979 monsoon. However, by July, idled potlines were being restarted as a result of a more than adequate rainfall in the 1980 monsoon and, in September, Indian Aluminium was operating all units for the first time in its history. Unfortunately, a production curtailment of 30% due to power reductions was imposed prior to year end at the 73,000-tonne-a-year Belgaum smelter.

More significant, however, is the continued reluctance of the Indian government to permit increases in the controlled price of metal, forcing producers to absorb all increases in raw materials prices since April 1978. However, the government did permit producers to pass along higher electricity charges and increased costs incurred by the State Trading Corporation in purchasing imported metal.

The net result of the government's attitude towards metal prices and continued high levels of inflation is that all domestic producers are operating their smelters at a loss, although Indian Aluminium has been able to offset this somewhat with profits from its fabricating operations.

Indian Aluminium is seeking government approval to increase capacity of its Belgaum alumina plant by 60,000 tonnes annually to 220,000 tonnes. Basic engineering has already been completed.

### Japan



**Norman F. Macfarlane**  
*Vice President, Japan and Korea*

Japanese demand for primary aluminum was strong in the first half of 1980 but a fall-off in the second half resulted in total demand for the year falling 6% below 1979 to 1.7 million tonnes. Part of the reduction was due to an abnormally cool Japanese summer which reduced demand for canned drinks and consumer durables, such as air conditioners. Also, housing starts were depressed, which translated into lower demand for building products.

Ingot prices rose during the year, but rising energy costs kept margins on domestic smelting relatively tight. Imports reached the record level of 800,000 tonnes of ingot and 300,000 tonnes of scrap with the USA supplying a significant portion of the increase over 1979. Faced with rising oil costs and low-cost imports of metal due to yen appreciation, Japanese smelters reduced their production again to an annual rate of one million tonnes early in 1981.

Demand for fabricated products peaked in April and, by August, shipments of mill products had fallen by 20%. As a result, total smelter inventories began increasing rapidly and, by year end, were 220,000 tonnes, up from 95,000 tonnes a year ago.

Nippon Light Metal Company, Ltd, 50%-owned by Alcan, posted a good performance in the first half but profits deteriorated in the second half. Sales revenues, which are not included in Alcan's consolidated sales, increased by 20% to the equivalent of \$1.5 billion, helped by higher prices and the continuing expansion of fabricating operations. The company



## Review of the Year

dismantled and sold for export its 107,000-tonne-a-year Niigata smelter which it had closed because of high energy costs, and contracted with other Alcan companies for major amounts of imported metal. Along with other Japanese companies, it is investigating means of further reducing its reliance on oil-fired energy at its remaining smelters.

Toyo Aluminium K.K., also 50%-owned by Alcan, showed further improvements in 1980 and total foil shipments rose 5% to 27,000 tonnes, equivalent to a 27% share of the Japanese market. Consolidated sales revenue increased to the equivalent of \$200 million.

### Asia

P.T. Alcan Indonesia (70%-owned) had the best year in its history with record volume and profits, resulting principally from significant increases in plant productivity. Strong growth is expected again in 1981. The results of Aluminium Company of Malaysia Berhad (38.6%-owned) were constrained by the limited sheet capacity available. This problem is expected to be alleviated as a \$50 million sheet and foil project, which will triple capacity by 1983, has been approved.



C. W. Birkett  
Vice President, Asia

Johore Mining and Stevedoring Company Sdn Berhad (52.5%-owned) achieved record results and made significant progress in re-establishing mined-out bauxite areas for agriculture and fish farming.

Alcan Thai Company Limited maintained a strong earnings growth in its domestic operations,

but shipments to the Middle East, its main export market, were affected by increasing competition.

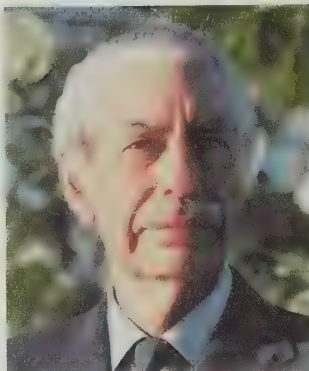
Alcan continued its contractual sales of ingot to the People's Republic of China; total shipments were lower than in the two preceding years.

### South Pacific

#### Australia

The Australian economy in 1980 was generally buoyant, although such sectors as retailing, the automotive industry and construction showed little improvement, and inflation is persisting.

Alcan Queensland Pty Limited (100%-owned), Alcan's holding company for its 70% interest in Alcan Australia Limited and for its 21.4% interest in Queensland Alumina Limited and its bauxite leases, had consolidated net income 40% higher than in 1979. The improved results reflect higher realizations on a higher volume of sales.



J. B. Clarkson  
Vice President, South Pacific

tonnes annually is planned with construction expected to be completed by 1984.

Work is under way at Alcan Australia's aluminum sheet rolling plant at Granville, New South Wales, to raise sheet fabricating capacity by 15% through installation of new ingot preparation and cold-handling facilities.

Foil conversion capacity at the Cabramatta, New South Wales plant is to be increased with the installation of a new printing press.

Studies are being conducted by Queensland Alumina on the feasibility of expanding its alumina refinery which operated at a rate of 2.4 million tonnes in 1980. A decision on such an expansion is expected in early 1981. This facility provides alumina for Alcan smelters in Australia and British Columbia.

The detailed feasibility study and engineering for the establishment with partners of an aluminum smelter in Queensland continued during the year. Alcan Queensland Smelter Limited was formed to carry out this work and ultimately to build and operate the smelter. Studies are at a stage which would permit a decision to be taken in the first half of 1981, if the project continues to look economic and related governmental approvals are obtained. If such is the case, the initial plant of 100,000-tonne annual capacity could begin production in late 1983.

The Australian economy is being stimulated by a large growth in resource development. This activity is reaching boom levels and, while it will add further impetus to economic growth, is already producing higher construction costs and shortages of skilled trades people.

#### New Zealand

The New Zealand economy remained depressed during 1980, with inflation high and no real growth in gross domestic product. Nevertheless, Alcan New Zealand Limited had a consolidated profit close to the 1979 level. Export sales, which helped offset a soft domestic market in the early part of the year, deteriorated as competition intensified in the second half.

The year ahead may prove to be more difficult; while domestic price increases could offset higher costs, the continuing inflation is creating a growing problem of liquidity in the company.

Alcan Australia achieved record results and continued its program of major capital project improvements. Expansion of its Kurri Kurri smelter in New South Wales to 90,000 tonnes a year from 67,500 tonnes was completed, and full production is expected during the first quarter of 1981. A further expansion to 135,000



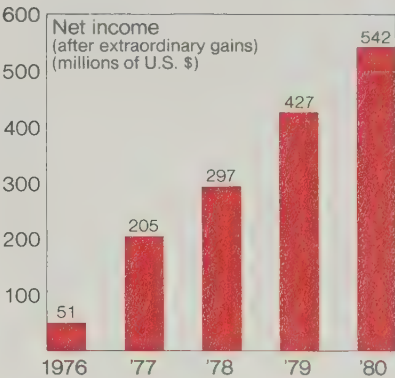
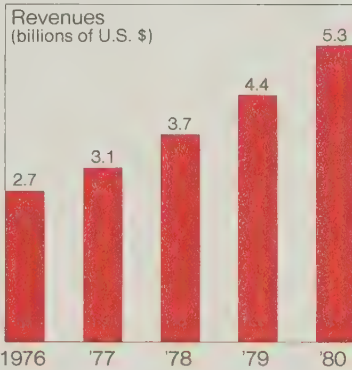
Results of Operations

Despite another year of high inflation in most world economies, Alcan’s 1980 results showed continued improvement, even when measured in real economic terms. This was achieved with a sales tonnage which was 4% higher than in 1979, when 40% of the Company’s consolidated primary aluminum capacity was shut down for three months by strikes in Quebec, and which was fractionally lower than the level of 1978.

	1980	1979	1978
Sales tonnage ('000 tonnes)	1,588	1,532	1,597
Income from continuing operations (US \$ millions)			
Historical cost basis	542	406	297
Current purchasing power basis (end of year 1980 \$)	278	147	134
Return on average shareholders' equity (as a percentage)			
Historical cost basis	24	23	19
Current purchasing power basis	12	10	9
Annual inflation as measured by change in U.S. consumer price index (as a percentage)	12	13	9

Realizations and Gross Profit

Fundamental to this good performance were market conditions which permitted sales realizations to increase at a rate sufficient to cover the impact of inflation on current operating costs and on shareholder funds invested in inventories and depreciable fixed assets. In 1980 Alcan’s net realization per tonne of sales of ingot products was 25% higher than in 1979 and 55% higher than in 1978. Comparable growth for fabricated product realizations was 13% in 1980, and 31% over the two-year period.



Reflecting the continuation of the 1979 pattern of greater price improvement at the ingot level, as well as some increase in ingot volume within the aluminum product mix, the contribution of ingot products to consolidated gross profit was significantly greater in 1980 than in 1979. Non-aluminum products also provided an increased share of gross profit. This part of Alcan’s business is made up principally of sales of other metals in the United States as well as sales of alumina and chemical products.

Other metal sales benefited from generally favourable market conditions in the USA. Sales of alumina improved with the return to full production in Jamaica accompanied by a very significant increase in market prices.

On an integrated basis, the composition of consolidated gross profit for the last three years is as follows:

	1980	1979	1978
Ingot products	20%	15%	18%
Fabricated products	58	63	65
Other products	14	12	10
Operating revenues and other income	8	10	7
	100%	100%	100%
Consolidated gross profit* (US \$ millions)	1,420	1,061	884

\* Defined as total revenues minus cost of sales and operating expenses, and depreciation.

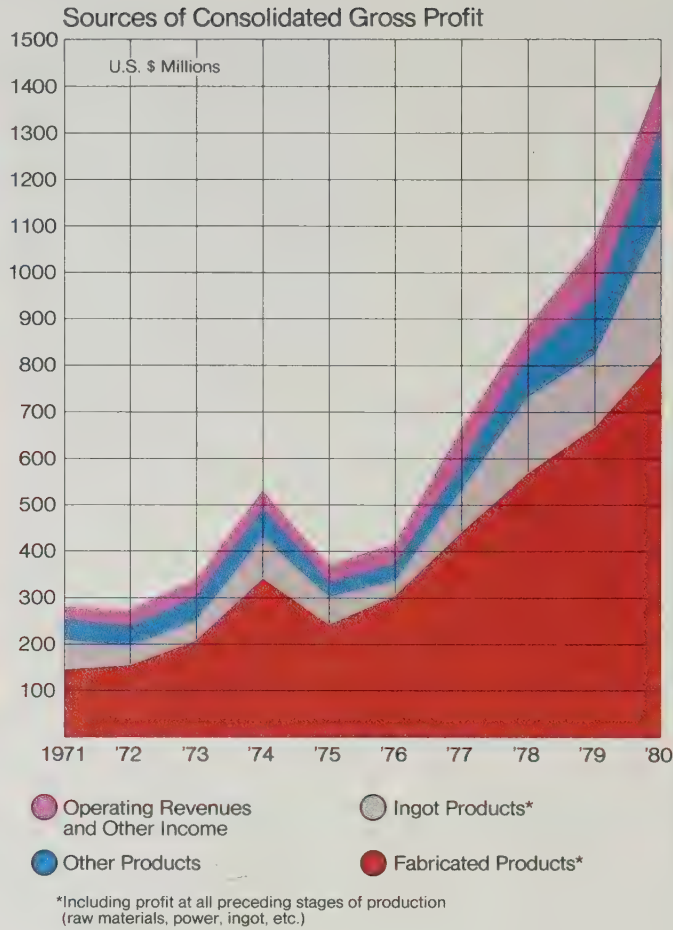
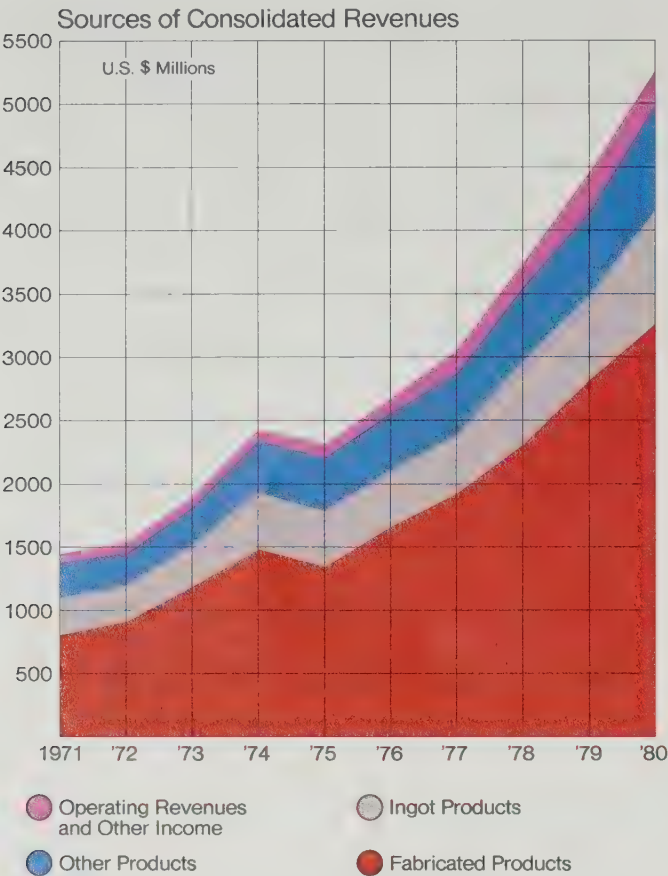
In determining gross profit, inventory costs have been charged against sales revenues on the basis of monthly average historical costs rather than most recent costs. The inventory profit which results from this method and which is included in gross profit is estimated at \$114 million for 1980 compared to a revised estimate of \$86 million for 1979.

Interest Expense

From 1 January 1980 Alcan began capitalizing instead of charging to expense the interest costs associated with the financing of projects under construction, in accordance with the recommendations of the Financial Accounting Standards Board in the United States. The effect of this accounting change was to decrease interest expense charged against income in 1980 by \$36 million. Including the effect on the equity accounted companies, net income was increased by \$26 million. Subject to interest rate movements, the amount of capitalized interest can be expected to increase in 1981 in line with the Company’s increased capital spending program.



# Management's Discussion and Analysis



### Tax Rate

Alcan's effective income tax rate is also influenced by the level of capital spending. In 1980 it increased to 42%, from 34% in 1979, due in large measure to the growth of pre-tax earnings in Canada at a rate faster than the growth of tax incentive allowances generated by new capital expenditures in Canada. Also, the 1979 rate was favourably affected by a special adjustment of deferred taxes by the UK subsidiary. The comparable rate in 1978 was 37%.

### Equity Companies

Alcan's two 50%-owned affiliates in Japan together constitute the most important factor in overall earnings under this category. Their dollar results are particularly sensitive to exchange rate movements. Despite the adverse impact of a 16% strengthening of the yen relative to the dollar in 1980, both companies made higher contributions to equity income this year than in 1979. In Mexico, Alcan's 49%-owned affiliate had an extremely successful year in the buoyant economic environment prevailing in that country and contributed significantly to total equity income.

### North America and Brazil

Reflecting full capacity operations throughout the year in Canadian smelters, increased alumina production in Jamaica and satisfactory sales performance in the Company's North American markets, the earnings of Aluminum Company of Canada, Ltd accounted for 75% of consolidated net income in 1980. This compares with 54% in the strike year 1979 and 61% in 1978. It is indicative of the growing importance of Alcan's existing Canadian smelter base.

In Brazil, 1980 was an exceptionally successful year. Compared with 1979, when results were significantly affected by the first 'maxi-devaluation' of the cruzeiro for many years, Brazilian earnings more than doubled and accounted for a large part of the Latin American total of \$62 million. It is not likely that this high level of profit will be maintained in 1981 as cruzeiro devaluation increases. Brazilian regulations permit the remittance of dividends, subject to a standard 25% withholding tax, up to 16% of registered capital investment. While this is currently adequate in the context of the Company's expansion program in that country, Alcan is concerned that regulations do not permit the full amount of reinvested profits to be added to the registered base for future dividends, and has this subject under continuing review.

### The Fourth Quarter

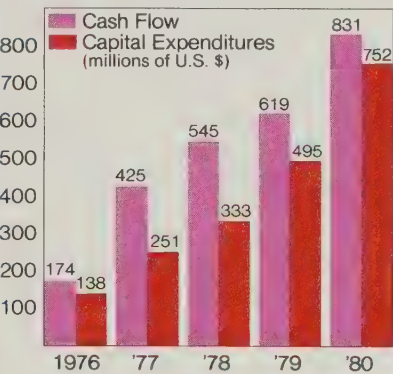
In the fourth quarter of 1980 consolidated earnings were off only slightly from the third quarter even though operations in Europe recorded an overall loss



for the quarter, principally in Germany and the United Kingdom. Consolidated sales tonnage declined fractionally from the third quarter but average realizations for both ingot and fabricated products held steady at the levels to which they had risen by the first half of the year. Gross margins were eroded slightly under pressure from continuing cost escalation, particularly in the raw materials and smelting sectors of the business. Given the recently renewed uncertainty about the short-term outlook for the U.S. economy, it appears likely that Alcan's consolidated earnings will suffer some further decline in the first part of 1981.

**Liquidity and Capital Resources**

Alcan entered 1980 with a debt/equity ratio of 28:72, following five successive years of improvement. (For this purpose, debt includes short-term borrowings and equity includes minority interests.) Capital expenditures during the year totalled \$752 million, some \$150 million higher than foreseen at the start of the year and some \$250 million higher than the 1979 level. This resulted in part from the favourable earnings climate which allowed the Company to pursue at an accelerated pace the expansion and modernization programs which have been gaining momentum



since 1977. Additional factors were the capitalization of interest and the continuing difficulties experienced in estimating inflation and currency exchange rates.

Internal cash generation in 1980 amounted to \$831 million, sufficient to meet the capital expenditure program and increase the dividend with only a slight change in the debt/equity ratio at year end to 30:70.

This is a low ratio in a capital-intensive industry and puts Alcan in a strong position to proceed with its growth plans in a year which has begun in circumstances of some general economic uncertainty. Capital expenditures in 1981 are expected to be about \$950 million. This will require some further increase in the debt/equity ratio.

Significant amounts of new debt financing were arranged during 1980 by subsidiaries in Australia, Brazil and the United Kingdom. These arrangements, together with undrawn credit facilities previously in

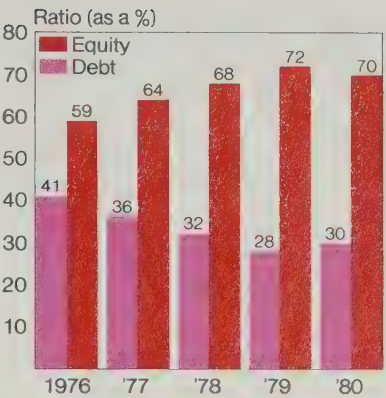
place for Aluminum Company of Canada, Ltd and many of the other operating subsidiaries, are expected to be adequate to meet Alcan's requirements for 1981. Looking to 1982 and later, further borrowings may be arranged during 1981, de-

pending upon financial market conditions, for ongoing as well as new capital projects, particularly in Canada and Australia.

As the parent company and a holding company without significant operating assets, Alcan itself does not borrow. Its cash needs to meet dividend payments and to provide appropriate support to the expansion programs of its subsidiaries and affiliates have to be met out of its own cash reserves and dividend and interest income. The parent's liquidity was satisfactory in 1980 and is expected to remain so in 1981.

In the President's message and in the various geographic review sections of this report, information is given about the more important elements of the Company's 1980 capital spending and the program for 1981. It should be mentioned here, however, that some construction delay was experienced during the year with the Aughinish project, an 800,000-tonne-per annum alumina plant in Ireland in which Alcan has a 40% participation. Completion of the project is now expected during 1983 at a total cost presently estimated somewhat in excess of \$1 billion. During the construction period, Alcan's investment in this project is reflected in the consolidated financial statements only to the extent of Alcan's direct cash contribution to its funding and contingent liability in respect of debt guarantees. Upon completion, Alcan's 40% interest in the project's assets and debt finance will come onto the consolidated balance sheet in accordance with joint venture arrangements.

Exclusive of cash and borrowings, net investment in other working capital items increased by \$159 million in 1980, following an increase of \$55 million in 1979. This is demonstrated below.



	1980	1979	1978
	(U.S.\$ millions)		
Receivables	848	827	727
Aluminum	785	609	630
Raw materials and other supplies	651	525	436
Payables	(700)	(614)	(519)
Income and other taxes	(225)	(147)	(129)
	1,359	1,200	1,145



# Management's Discussion and Analysis

In 1980, aluminum inventories rose by 75,000 tonnes to reach a more normal level of 485,000 tonnes. Most of the increase occurred during the last few months of the year. The increase in the carrying value of inventory during the year is also due to cost inflation and variations in product mix.

The Company has been holding substantial surplus bauxite inventories for several years. These grew appreciably during 1980 but rapid escalation of costs was also an important factor in the increased investment in raw materials and other supplies.

On 31 March 1980, the common shares of Alcan were subdivided 2 for 1, and figures in this report have been adjusted accordingly.

Dividends totalled \$109 million in 1980 compared to \$85 million in 1979 and \$63 million in 1978. A further increase in the quarterly dividend from 35¢ to 45 cents per share was declared on 5 February 1981 by Alcan's Board of directors.

1981 is the fifth consecutive year in which the dividend rate has been increased, and it is expected that further increases will be made at appropriate intervals when justified by the trend of earnings.

Dividends paid to non-resident shareholders are subject to Canadian withholding taxes. At present a 10% withholding tax normally applies to U.S. residents, and 10% to 25% to residents of other countries depending on the tax treaties between Canada and the individual's country of residence.

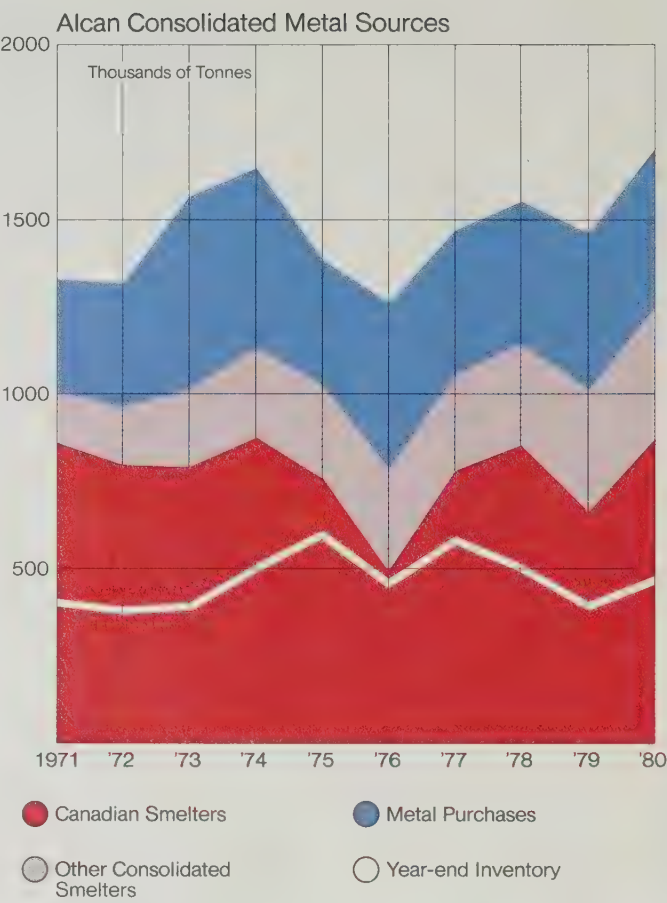
## Common Capital Stock

### Common Shares Quarterly Statistics

1980	Net Income per Share	Dividend Paid per Share	Market Price of Common Shares (NYSE)	
			High	Low
First	1.83	0.30	32.75	23.31
Second	1.70	0.35	29.13	22.63
Third	1.63	0.35	38.88	26.25
Fourth	1.54	0.35	38.25	32.38
Year	6.70	1.35	38.88	22.63

1979	Net Income per Share	Dividend Paid per Share	Market Price of Common Shares (NYSE)	
			High	Low
First	1.19	0.25	19.25	16.75
Second	1.35	0.25	18.94	16.69
Third	1.29	0.25	20.56	16.31
Fourth	1.45	0.30	23.44	17.25
Year	5.28	1.05	23.44	16.31



## Responsibility for Financial Reporting

Alcan's management is responsible for the integrity and fair presentation of the accompanying financial statements. These have been prepared in accordance with generally accepted accounting principles in Canada, conforming in all material respects with international standards, and have been applied on a consistent basis except for the change explained in note 2 of the financial statements.

Alcan's policy is to maintain systems of internal accounting and administrative controls of high quality consistent with reasonable cost. Such systems are designed to provide reasonable assurance that the financial information is accurate and reliable and that Company assets are adequately accounted for. The Audit Committee meets regularly with representatives of the independent auditors and with members of management to satisfy themselves that Alcan's policy is being followed.

The annual financial statements are reviewed by the Audit Committee and are approved by the Board of directors. In addition, the financial statements are examined by the shareholders' independent auditors, Price Waterhouse & Co., whose report appears on page 38.



# Information by Geographic Areas

in millions of U.S. dollars	Canada and Caribbean	United States	Latin America	Europe and Africa	Asia and So. Pacific	Elim- inations	Alcan Consol.
<b>Year ending 31 December 1980</b>							
Sales and operating revenues							
To subsidiaries	925	87	—	4	63	(1,079)	—
To others	1,237	1,273	448	1,697	560	—	5,215
Total	2,162	1,360	448	1,701	623	(1,079)	5,215
Net income	405	33	63	29	63	(51)	542
Capital expenditures	404	53	61	147	87	—	752
<b>31 December 1980</b>							
Current assets	999	491	254	763	313	(253)	2,567
Fixed assets—net	1,311	198	261	421	250	—	2,441
Investments and other assets	112	8	60	210	72	—	462
Identifiable assets	2,422	697	575	1,394	635	(253)	5,470
Current liabilities and deferred credits	481	176	157	468	208	(181)	1,309
Capital employed	1,941	521	418	926	427	(72)	4,161
Number of employees (thousands)	23	5	10	17	12	—	67
<b>Year ending 31 December 1979</b>							
Sales and operating revenues							
To subsidiaries	734	62	—	17	65	(878)	—
To others	1,005	1,073	439	1,448	425	—	4,390
Total	1,739	1,135	439	1,465	490	(878)	4,390
Net income	214	48	40	107	46	(28)	427
Capital expenditures	224	35	53	134	49	—	495
<b>31 December 1979</b>							
Current assets	870	475	165	676	236	(233)	2,189
Fixed assets—net	984	163	217	371	180	—	1,915
Investments and other assets	119	5	57	157	48	—	386
Identifiable assets	1,973	643	439	1,204	464	(233)	4,490
Current liabilities and deferred credits	393	173	101	394	143	(177)	1,027
Capital employed	1,580	470	338	810	321	(56)	3,463
Number of employees (thousands)	22	5	9	17	12	—	65
<b>Year ending 31 December 1978</b>							
Sales and operating revenues							
To subsidiaries	801	52	1	19	48	(921)	—
To others	891	980	314	1,148	378	—	3,711
Total	1,692	1,032	315	1,167	426	(921)	3,711
Net income	151	38	41	62	37	(32)	297
Capital expenditures	138	20	64	77	34	—	333
<b>31 December 1978</b>							
Current assets	749	403	187	628	243	(228)	1,982
Fixed assets—net	847	141	192	314	144	—	1,638
Investments and other assets	84	7	40	170	46	—	347
Identifiable assets	1,680	551	419	1,112	433	(228)	3,967
Current liabilities and deferred credits	338	156	115	409	136	(191)	963
Capital employed	1,342	395	304	703	297	(37)	3,004
Number of employees (thousands)	22	5	8	17	11	—	63

Sales to subsidiary companies are made at a fair market price recognizing volume, continuity of supply and other factors.

Net income is total revenues less expenses directly related to the geographic area in accordance with generally accepted accounting principles.

Capital employed represents the total book value of the net assets located in each area.



# Quarterly Financial Data

in millions of U.S. dollars (unaudited)				
1980				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Revenues*	\$1,310	\$1,319	\$1,320	\$1,315
Costs and expenses*	1,058	1,062	1,097	1,109
Income taxes	108	114	91	80
Equity income and minority interests	4	(6)	—	(1)
Net income	\$ 148	\$ 137	\$ 132	\$ 125
Income per common share (U.S.\$)	1.83	1.70	1.63	1.54
1979				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Revenues*	\$1,086	\$1,145	\$1,073	\$1,146
Costs and expenses*	912	1,004	948	961
Income taxes	74	50	15	72
Equity income and minority interests	(3)	(3)	(6)	4
Extraordinary gain	—	21	—	—
Net income	\$ 97	\$ 109	\$ 104	\$ 117
Income per common share (U.S.\$)				
Before extraordinary gain	1.19	1.08	1.29	1.45
Extraordinary gain	—	.27	—	—
Net income	1.19	1.35	1.29	1.45
1978				
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Revenues	\$ 823	\$ 964	\$ 919	\$1,032
Costs and expenses	718	823	787	899
Income taxes	40	57	52	41
Equity income and minority interests	(3)	(6)	(11)	(4)
Net income	\$ 62	\$ 78	\$ 69	\$ 88
Income per common share (U.S.\$)	.76	.97	.86	1.08

\*Restated for comparative purposes



# Consolidated Statement of Income

Year ending 31 December (in millions of U.S. dollars)	1980	1979	1978
<b>Revenues</b>			
Sales	\$4,992	\$4,195	\$3,552
Operating revenues	223	195	159
Other income (principally interest)	49	60	27
	<b>5,264</b>	<b>4,450</b>	<b>3,738</b>
<b>Costs and expenses</b>			
Cost of sales and operating expenses	3,682	3,240	2,716
Depreciation	162	149	138
Selling, research and administrative expenses	352	308	268
Interest on debt not maturing within one year (note 2)	61	85	72
Other interest	46	29	16
Other expenses	23	14	17
	<b>4,326</b>	<b>3,825</b>	<b>3,227</b>
<b>Income before income taxes and other items</b>	<b>938</b>	<b>625</b>	<b>511</b>
Income taxes (note 3)	393	211	190
<b>Income before other items</b>	<b>545</b>	<b>414</b>	<b>321</b>
Equity income	25	21	5
Minority interests	(28)	(29)	(29)
<b>Income before extraordinary gain</b>	<b>542</b>	<b>406</b>	<b>297</b>
Gain on sale of investment	—	21	—
<b>Net income</b>	<b>\$ 542</b>	<b>\$ 427</b>	<b>\$ 297</b>

	in U.S. dollars		
<b>Income per common share</b>			
Before extraordinary gain	\$6.70	\$5.01	\$3.67
Extraordinary gain	—	.27	—
<b>Net income</b>	<b>\$6.70</b>	<b>\$5.28</b>	<b>\$3.67</b>
<b>Dividends per common share</b>	<b>\$1.35</b>	<b>\$1.05</b>	<b>\$ .78</b>



Consolidated Balance Sheet—Assets

31 December (in millions of U.S. dollars)	1980	1979	1978
Current assets			
Cash and time deposits	\$ 283	\$ 228	\$ 189
Receivables	848	827	727
Inventories			
Aluminum	785	609	630
Raw materials	412	312	245
Other supplies	239	213	191
	2,567	2,189	1,982
Deferred charges	56	45	41
Deferred receivables (note 4)	80	88	79
Investments in companies owned 50% or less (note 5)	326	253	227
Property, plant and equipment (note 6)	4,459	3,808	3,434
Less: Accumulated depreciation	2,018	1,893	1,796
	2,441	1,915	1,638
Total assets	\$5,470	\$4,490	\$3,967



## Consolidated Balance Sheet—Liabilities and Shareholders' Equity

31 December (in millions of U.S. dollars)	1980	1979	1978
Current liabilities			
Payables	\$ 700	\$ 614	\$ 519
Short-term borrowings (principally from banks)	243	109	145
Income and other taxes	225	147	129
Debt maturing within one year (note 7)	26	44	76
	1,194	914	869
Debt not maturing within one year (note 7)	910	759	691
Deferred credits (note 8)	115	113	94
Deferred income taxes	514	397	344
Minority interests (note 9)	274	275	279
Shareholders' equity (note 10)			
Capital stock			
Preferred shares	—	2	2
Common shares	427	427	427
Retained earnings	2,036	1,603	1,261
	2,463	2,032	1,690
Commitments and guarantees (note 11)			
Total liabilities and shareholders' equity	\$5,470	\$4,490	\$3,967

Approved by the Board: David M. Culver, Director  
John H. Hale, Director



## Consolidated Statement of Changes in Financial Position

Year ending 31 December (in millions of U.S. dollars)	1980	1979	1978
<b>Source of funds</b>			
Income after taxes	\$ 545	\$ 414	\$ 321
Depreciation	162	149	138
Deferred income taxes	117	56	83
Other	7	—	3
From operations	831	619	545
New debt	197	152	114
Sales of investments (including extraordinary gain)	6	71	29
Disposals of plant and equipment	14	20	11
Issue of shares by subsidiary companies	4	—	25
Other—net	4	—	9
	1,056	862	733
<b>Application of funds</b>			
Plant and equipment	683	451	303
Investments	69	44	30
Debt repayments	62	80	184
Dividends paid to Alcan shareholders	109	85	63
Dividends paid to shareholders of subsidiary companies	18	20	16
Redemption of shares of subsidiary companies	17	7	3
Other—net	—	13	—
	958	700	599
<b>Increase in working capital (note 12)</b>	<b>98</b>	<b>162</b>	<b>134</b>
Working capital—beginning of year	1,275	1,113	979
<b>Working capital—end of year</b>	<b>\$1,373</b>	<b>\$1,275</b>	<b>\$1,113</b>

## Consolidated Statement of Retained Earnings

Year ending 31 December (in millions of U.S. dollars)	1980	1979	1978
<b>Retained earnings—beginning of year</b>	<b>\$1,603</b>	<b>\$1,261</b>	<b>\$1,027</b>
Net income	542	427	297
	2,145	1,688	1,324
Dividends	109	85	63
<b>Retained earnings—end of year (note 10)</b>	<b>\$2,036</b>	<b>\$1,603</b>	<b>\$1,261</b>



1. Summary of accounting policies

Principles of consolidation

The consolidated financial statements include the accounts of all companies more than 50% owned. In addition, under the equity accounting principle, consolidated net income includes Alcan's equity in the net income or losses of all companies 20-50% owned and the investments in these companies have been increased or decreased by Alcan's share of their undistributed net income or losses since acquisition. When the cost of an investment differs from the book value of Alcan's equity therein at date of acquisition, the difference is amortized over the estimated useful lives of the related fixed assets. Intercompany items and transactions between consolidated companies, including profits in inventories, are eliminated.

Translation of accounts into United States dollars

The consolidated financial statements are expressed in U.S. dollars, the principal currency of international trade and of Alcan's business.

Current assets excluding inventories, current liabilities and long-term monetary assets and liabilities included in the consolidated balance sheet are translated at the rates of exchange at year end. Other balance sheet items are translated at rates prevailing at the respective transaction dates. Accounts included in the consolidated statement of income are translated at the average rates prevailing during the year except for the cost of inventories and depreciation which are translated at rates prevailing when the related assets were acquired. Translation gains and losses are included in net income except for gains and losses relating to the translation of long-term monetary assets and liabilities which are deferred and amortized over the remaining lives of the related items.

The Financial Accounting Standards Board in the United States requires that companies reporting to investors in the United States follow the practice of absorbing immediately in income unrealized exchange gains and losses on the translation of non-U.S. dollar long-term monetary assets and liabilities. However, Alcan follows the practice recommended by The Canadian Institute of Chartered Accountants of deferring such unrealized exchange gains and losses and amortizing them over the remaining lives of the related items. The following table compares reported net income under the Alcan method with the net income that would have been reported under the FASB method together with the cumulative effect on retained earnings.

	1980		1979		1978	
	Alcan Method	FASB Method	Alcan Method	FASB Method	Alcan Method	FASB Method
Consolidated net income						
First quarter (unaudited)	\$ 148	\$ 171	\$ 97	\$ 98	\$ 62	\$ 54
Second quarter (unaudited)	137	124	109	109	78	70
Third quarter (unaudited)	132	127	104	98	69	57
Fourth quarter (unaudited)	125	147	117	121	88	73
	542	569	427	426	297	254
Dollars per common share	6.70	7.03	5.28	5.26	3.67	3.15
Consolidated retained earnings						
Beginning of year	1,603	1,525	1,261	1,184	1,027	993
End of year	2,036	1,985	1,603	1,525	1,261	1,184

Other

Aluminum, raw materials and other supplies are stated at cost (determined for the most part on the monthly average method) or net realizable value, whichever is the lower.

Depreciation is calculated on the straight-line method using rates based on the estimated useful lives of the respective assets.

Income per common share is calculated by dividing net income less Alcan preferred dividends by 80,893,388, the number of shares outstanding after giving effect to the 2 for 1 subdivision of shares on 31 March 1980.



2. Accounting change

Capitalization of interest costs

Beginning 1 January 1980 Alcan commenced capitalizing instead of expensing the interest costs associated with the financing of projects under construction, in accordance with the recommendations of the Financial Accounting Standards Board in the United States. The effect of this accounting change was to decrease interest expense charged against income for the year 1980 by \$36 and to increase Alcan's share of net income of consolidated companies by \$17. This change also had the effect of further increasing net income by \$9 through an increase in the 1980 income reported under the equity accounting principle.

3. Income taxes

	1980	1979	1978
Income before income taxes and other items			
Canada	\$584	\$256	\$215
Other countries	354	369	296
	<u>938</u>	<u>625</u>	<u>511</u>
Current income taxes			
Canada	160	32	19
Other countries	116	123	88
	<u>276</u>	<u>155</u>	<u>107</u>
Deferred income taxes			
Canada	81	45	66
Other countries	36	11	17
	<u>117</u>	<u>56</u>	<u>83</u>
Total income tax provision	\$393	\$211	\$190

The composite of the applicable statutory corporate income tax rates in Canada is presently 51.0% (48.6% in 1979, 48.0% in 1978). Profits earned by subsidiary companies located outside Canada are generally subject to income taxes at rates comparable to this composite rate. Dividends paid by these subsidiary companies are generally tax-exempt upon receipt in Canada. Taxes withheld at source are included in current income taxes—other countries.

The following is a reconciliation of income taxes calculated at the above composite rate with the total income tax provision:

	1980	1979	1978
Income taxes at the above composite rate	\$478	\$304	\$245
Reduction attributable to:			
Investment and depletion allowances	85	58	53
Deferred taxes provided on UK inventory appreciation relief no longer required	—	23	—
Other—net	—	12	2
Income tax provision	<u>\$393</u>	<u>\$211</u>	<u>\$190</u>

The deferred income tax provision arises principally as a result of depreciation timing differences except for the \$23 credited to deferred income taxes in the UK in 1979 and the application in 1978 of a loss carry forward of a prior year of \$27.

4. Deferred receivables

Deferred receivables include \$35 due with interest over the period 1982 to 1991 from the Government of Guyana in respect of the nationalization in 1971 of Alcan's bauxite and alumina assets and \$24 due with interest over the period 1982 to 1988 from the Government of Jamaica in respect of funds deposited and for the sale of assets.



## 5. Investments in companies owned 50% or less

	1980	1979	1978
<b>Shares at cost plus equity in undistributed net income since acquisition</b>			
Companies 50% owned (cost \$50)	\$ 68	\$ 58	\$ 55
Companies 20% to 50% owned (cost \$107)	173	147	157
<b>Shares at cost</b>			
Companies less than 20% owned	4	3	4
	245	208	216
<b>Advances</b>	81	45	11
	<u>\$326</u>	<u>\$253</u>	<u>\$227</u>

The combined results of operations and the financial position of the 20-50% owned companies, located mainly in Australia, Brazil, Europe, Guinea and Japan, are summarized below.

	1980	1979	1978
<b>Results of operations for the year</b>			
Revenues	\$4,861	\$4,012	\$3,761
Costs and expenses	4,699	3,846	3,707
Income before income taxes	162	166	54
Income taxes	106	70	24
Net income	<u>\$ 56</u>	<u>\$ 96</u>	<u>\$ 30</u>
*Alcan's share of net income	26	27	8
Dividends received by Alcan	7	5	7
<b>Financial position at 31 December</b>			
Working capital	\$ 252	\$ 216	\$ 410
Property, plant and equipment—net	2,662	2,327	2,007
Other assets—net	524	461	489
	3,438	3,004	2,906
Less: Debt not maturing within one year	2,340	2,081	2,080
Deferred income taxes	25	3	19
Net assets	<u>\$1,073</u>	<u>\$ 920</u>	<u>\$ 807</u>
**Alcan's equity in net assets	322	250	223

\*Where a company operates as a joint venture supplying materials to each participant, Alcan's share of the net income is applied to the cost of the materials so obtained.

\*\*If deferred unrealized exchange gains and losses had been included in net income, as required by the Financial Accounting Standards Board in the United States, Alcan's equity in net assets of companies 20-50% owned would be reduced by \$33. Under Alcan's accounting policy this amount is amortized over the remaining lives of the related items.

## 6. Property, plant and equipment, at cost

	1980	1979	1978
Land, and property rights	\$ 80	\$ 77	\$ 79
Buildings, machinery and equipment	3,670	3,329	3,108
Construction work in progress	709	402	247
	<u>\$4,459</u>	<u>\$3,808</u>	<u>\$3,434</u>

Capital expenditures in 1981 are expected to be about \$950.



## 7. Debt not maturing within one year

	1980	1979	1978
<b>Canadian and Caribbean companies</b>			
9½% Sinking fund debentures, due 1995	\$ 82	\$ 87	\$ 97
10¾% Sinking fund debentures, due 1994 (Can. \$55)	46	49	55
9¾% Sinking fund debentures, due 1991 (Can. \$46)	38	39	42
9½% Sinking fund debentures, due 1988	37	41	48
5.10% Notes, due 1981/1992	54	58	63
*Bank loans under \$200 revolving credit agreement, due 1984/1988	40	—	—
Other debt, due 1981/2001	12	17	29
<b>USA companies</b>			
9½% Notes, due 1981/1994	44	45	45
4¾% Notes, due 1981/1984	14	17	20
Other debt, due 1981/2005	16	12	7
<b>Latin American companies</b>			
**Bank loans, due 1981/1991	99	58	38
Other debt, due 1981/1984	1	5	5
<b>European and African companies</b>			
5½% Bonds, due 1987 (Sw.F. 100)	56	63	62
*Loan, due 1987/1991 (£15)	36	33	31
10½% Loan stock, due 1981/1994 (£8)	19	18	16
*Bank loans, due 1981/1992 (principally £39, DM119)	165	167	146
Other debt, due 1981/2004	57	48	25
<b>Asian and South Pacific companies</b>			
8½% Bonds, due 1989	23	24	25
**Bank loans, due 1981/1986	53	17	3
Other debt, due 1981/1996	64	42	35
	956	840	792
<b>Less: Debt maturing within one year included in current liabilities</b>	26	44	76
Unamortized net amount of unrealized exchange loss	20	37	25
	\$910	\$759	\$691

\*Interest fluctuates with lender's prime commercial rate.

\*\*Interest is related to the London interbank offered rate.

Based on rates of exchange at year end and after allowing for prepayments, sinking fund and other requirements over the next five years amount to \$26 in 1981, \$57 in 1982, \$61 in 1983, \$89 in 1984 and \$63 in 1985.

## 8. Deferred credits

Deferred credits include \$51 prepayment by a related company under an alumina tolling arrangement.

## 9. Minority interests in subsidiary companies

	1980	1979	1978
Preferred shares	\$150	\$164	\$169
Common shares	63	60	63
Retained earnings	56	44	36
	269	268	268
Unamortized amount of unrealized exchange gain on redeemable preferred shares	5	7	11
	\$274	\$275	\$279

Preferred shares include \$140 issued by Aluminum Company of Canada, Ltd of which \$100 is floating rate second preferred shares issued in three equal series on 5 July 1977 and retractable at \$25 per share in series at the option of the holder on 5 July 1984, 1985 and 1986, respectively.



10. Shareholders' equity

Capital stock

The authorized share capital is an unlimited number of common shares, without nominal or par value. As at 31 December 1980 there were 80,893,388 common shares outstanding after giving effect to the 2 for 1 subdivision of shares on 31 March 1980. The remaining preferred shares were called for redemption on 15 April 1980 at the redemption price of Can. \$43 per share.

Retained earnings

Consolidated retained earnings at 31 December 1980 include

\$145 which, pursuant to the provisions of certain debt and share issues of Aluminum Company of Canada, Ltd, is not distributable as dividends either in cash or in kind to Alcan, the holder of its common shares,

\$84 of undistributed earnings of companies owned 50% or less, and

\$694, some part of which may be subject to certain taxes on distribution to the parent company. No provision has been made for such taxes because these earnings are reinvested in the business.

11. Commitments and guarantees

As a participant in a long-term cost-sharing joint venture, Alcan is required to pay its share of the operating costs of the facilities and costs of servicing the long-term debt of a related company. The fixed portion of this commitment amounts to \$11 in 1981, \$11 in 1982, \$9 in 1983, \$8 in 1984, \$11 in 1985 and like annual amounts up to 1992. In addition Alcan is guarantor of \$158 of long-term debt of certain other related companies.

Minimum rental commitments amount to \$35 in 1981, \$30 in 1982, \$20 in 1983, \$17 in 1984, \$13 in 1985 and lesser annual amounts thereafter. Total rental expense amounted to \$84 in 1980 (\$70 in 1979 and \$57 in 1978).

See also reference to capital expenditures in note 6 and debt repayments in note 7.

12. Changes in working capital

	1980	1979	1978
<b>Current assets</b>			
Cash and time deposits	\$ 55	\$ 39	\$ 83
Receivables	21	100	201
Inventories	302	68	40
	378	207	324
<b>Current liabilities</b>			
Payables and short-term borrowings	220	59	108
Income and other taxes	78	18	57
Debt maturing within one year	(18)	(32)	25
	280	45	190
<b>Net increase</b>	\$ 98	\$162	\$134

13. Supplementary income statement information

	1980	1979	1978
Repairs and maintenance	\$339	\$269	\$261
Taxes, other than payroll and income taxes	68	81	85
Research and development	47	34	33



14. Pension plans

The Company and its subsidiaries (with some exceptions) have established pension plans in the principal countries where they operate, for the greater part contributory and generally open to all employees. The total pension expense in 1980 was \$63 (\$48 in 1979 and \$81 in 1978 including the funding of an actuarial experience deficiency for the period 1975 to 1977). Pension expense includes amortization of unfunded actuarial liabilities which the Company and its subsidiaries are funding for the most part over periods of 15 years or less. Based on the most recent actuarial reports the unfunded actuarial liabilities amounted to \$21 for currently vested benefits and \$109 for total benefits. During 1980 increases in unfunded actuarial liability of \$43 arose from amendments made to certain pension plans.

Actuarial present values and assets used in determining information on the basis required by FASB are different from those used in determining the above unfunded actuarial liabilities. For the FASB results (i) salaries are not projected into the future (as they are for total unfunded actuarial liabilities), and (ii) assets are valued at market for purposes of valuation. Based on the most recent actuarial reports for the same pension plans, the present value of vested accumulated plan benefits was \$549 (\$479 in 1979) and non-vested benefits \$9 million (\$8 in 1979). The net assets available for benefits amounted to \$668 (\$507 in 1979). The present values of accumulated plan benefits were determined using a weighted average assumed rate of return of 6.9%. The effective dates of the actuarial reports were 1 January 1980 for the Canadian and United States plans, and 6 April 1980 for the United Kingdom plan.

15. Information by geographic areas

Information by geographic areas is contained in the summary on page 27.

Auditors' Report

TO THE SHAREHOLDERS OF  
ALCAN ALUMINIUM LIMITED

We have examined the consolidated balance sheets of Alcan Aluminium Limited as at 31 December 1980, 1979 and 1978 and the consolidated statements of income, retained earnings and changes in financial position for each of the three years then ended. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Company as at 31 December 1980, 1979 and 1978 and the results of its operations and the changes in its financial position for each of the three years then ended, in accordance with generally accepted accounting principles in Canada which (except for the change in accounting for interest expense as explained in note 2, with which we concur) have been applied on a consistent basis.

Montreal, Canada  
5 February 1981

PRICE WATERHOUSE & CO.  
Chartered Accountants



# Inflation Accounting

The need for inflation accounting is becoming more obvious, but confusion as to method persists. However, most people in North America seem to agree that the historical cost basis should be retained for the basic financial statements and that the effects of inflation should be presented as supplementary data.

The Financial Accounting Standards Board (FASB) in the United States in their FAS 33 has now called for a five-year period of experimentation, with the two methods—Current Purchasing Power (CPP) and Current Cost (CC)—being reported in parallel. Accordingly, Alcan presents several statements which compare the financial results for 1979 and 1980 under these different methods of accounting, as well as certain data required by FAS 33 for the past five years.

Historical cost (HC) is the actual cost which was incurred to acquire an asset or service, and is that reported in the basic financial statements.

CPP starts with HC and, using the U.S. Consumer Price Index (CPI), restates HC amounts into dollars having equal purchasing power. Thus, for example, a dollar spent in 1976 would be equal to \$1.48 in terms of 1980 current purchasing power. It is important to note that these results do not reflect the current cost of particular assets, goods or services in the 1980 market; rather they reflect a general rate of inflation. Also, CPP does not change the generally accepted accounting principles used in recording transactions at historical costs; only the unit of measurement is changed.

CC focuses upon the changing prices of specific assets, goods and services and measures the current value in terms of what those items would have cost when they were used or sold.

## CC Methodology

Alcan's larger subsidiaries have reviewed their assets in detail and have developed the current cost by using reliable market prices or by applying appropriate specific price indexes to the historical costs of specific assets or groups of assets. For smaller subsidiaries where the amounts are not significant and for the equity-accounted companies, the CPI was applied to historical costs as in the CPP method. Straight-line depreciation was calculated using the same method and asset life as in the basic HC financial statements. CC cost of sales was determined by adjusting historical costs by the estimated inflation which occurred during the period between the time of production and the time of sale. The amounts so derived were then computed in terms of year-end 1980 dollars for the accompanying statements.

For property, plant and equipment, this method measures the current cost of replacement of assets using existing technology in current dollars.

Although FAS 33 only calls for a restatement of certain HC items on the CC basis, we have developed a comprehensive set of statements in which inventories and property, plant and equipment were determined by application of the CC method described above and all other accounts, except shareholders' equity and minority interests, were derived by application of the CPP concept.

## Conclusions

Both the CPP and CC methods undoubtedly give more realistic results than HC by eliminating the effects of inflation, but the audience is less familiar with these. The CPP method is precise but the results are only approximate for given assets. The CC method permits application of judgment in determining many amounts and is therefore open to some degree of scepticism by the reader. Alcan's use of specific price indexes has for the most part removed the judgment factor.

Both methods confirm that Alcan's HC earnings are dramatically reduced when the effects of inflation are taken into account as evidenced by the resulting rates of return.

It is interesting to note that over the years, since Alcan's property, plant and equipment were acquired, the effects of inflation in the construction industry have been much greater than the general rate of inflation as indicated by the CPI. However, during the last two years the reverse situation has prevailed.

There are criticisms of the general index used in CPP, as a measurement of the general rate of inflation, and there are also many pitfalls in the CC method, particularly the subjective judgment aspect, which are troublesome. We welcome the FASB's policy of introducing a five-year period of experimentation with both methods and we believe this will allow time for development of the concepts and for resolution of at least some of the problems of implementation which are bound to arise. Hopefully this will enable everybody to agree on a method of inflation accounting which is conceptually sound and precise, and is intelligible to the users of the statements.



# Inflation Accounting

## Consolidated Balance Sheet—31 December in millions of U.S. dollars

	Historical as reported		CPP in terms of year-end 1980 dollars		CC in terms of year-end 1980 dollars	
	1980	1979	1980	1979	1980	1979
Current assets excluding inventories	1,131	1,055	1,131	1,186	1,131	1,186
Inventories	1,436	1,134	1,561	1,383	1,538	1,361
Deferred receivables and charges	136	133	136	149	136	149
Investments in companies owned 50% or less	326	253	568	492	568	492
Property, plant and equipment—net	2,441	1,915	3,339	2,961	4,068	3,796
	5,470	4,490	6,735	6,171	7,441	6,984
Current liabilities	1,194	914	1,194	1,027	1,194	1,027
Long-term debt	910	759	910	854	910	854
Deferred income taxes and credits	629	510	629	573	629	573
Minority interests	274	275	406	428	431	474
Shareholders' equity	2,463	2,032	3,596	3,289	4,277	4,056
	5,470	4,490	6,735	6,171	7,441	6,984
Rate of return on average capital employed (%)	16	16	9	8	7	7
Rate of return on average shareholders' equity (%)	24	23	12	10	9	7

## Consolidated Net Income Information in millions of U.S. dollars

	As reported in the financial statements (HC)		As adjusted for general inflation (CPP)		As adjusted for changes in specific prices (CC)	
	in historical dollars		in year-end 1980 dollars		in year-end 1980 dollars	
	1980	1979	1980	1979	1980	1979
Sales and operating revenues	5,215	4,390	5,461	5,218	5,461	5,218
Cost of sales and operating expenses	3,682	3,240	3,993	3,998	3,976	3,952
Depreciation expense	162	149	311	313	370	383
Selling, research and administrative expenses	352	308	369	366	369	366
Interest	107	114	112	135	112	135
Income taxes	393	211	412	251	412	251
Other	(23)	(38)	(24)	(45)	(24)	(45)
Indexing adjustments	—	—	10	53	32	54
	4,673	3,984	5,183	5,071	5,247	5,096
Income from continuing operations	542	406	278	147	214	122
Extraordinary item	—	21	—	(7)	—	(7)
Holding gain on monetary items	—	—	145	171	145	171
Net income for the year	542	427	423	311	359	286
Inventories and property, plant and equipment						
Increase in general price level (CPP)					616	720
Increase in specific prices (CC)					522	316
Excess of increase in general price level over increase in specific prices					94	404



**Five-Year Comparison of Financial Data**

	1980	1979	1978	1977	1976
<b>HC Data</b>					
In millions of U.S. dollars					
Sales and operating revenues	5,215	4,390	3,711	3,028	2,656
Income from continuing operations	542	406	297	205	51
Shareholders' equity at year end	2,463	2,032	1,690	1,455	1,295
In U.S. dollars per common share					
Income from continuing operations	6.70	5.01	3.67	2.53	.67
Cash dividends	1.35	1.05	.78	.55	.20
Market price at year end (NYSE)	33.25	23.44	16.94	13.13	11.81
<b>CPP Data in Year-End 1980 Dollars</b>					
In millions of U.S. dollars					
Sales and operating revenues	5,461	5,218	4,868	4,289	4,016
Income (loss) from continuing operations	278	147	134	87	(130)
Holding gain on monetary items	145	171	128	90	81
Shareholders' equity at year end	3,596	3,289	3,080	2,920	2,830
In U.S. dollars per common share					
Income (loss) from continuing operations	3.44	1.82	1.66	1.08	(1.72)
Cash dividends	1.41	1.25	1.02	.78	.30
Market price at year end	33.25	26.35	21.57	18.23	17.52
<b>CC Data in Year-End 1980 Dollars</b>					
In millions of U.S. dollars					
Sales and operating revenues	5,461	5,218			
Income from continuing operations	214	122			
Holding gain on monetary items	145	171			
Shareholders' equity at year end	4,277	4,056			
Excess of increase in the general price level over increase in specific prices of inventories and property, plant and equipment	94	404			
In U.S. dollars per common share					
Income from continuing operations	2.65	1.51			
Year-end consumer price index (CPI-U; 1967 base year = 100)	258.4	229.9	202.9	186.1	174.3



# A Ten-Year Summary

(Restated where necessary to give retroactive effect to changes in accounting practices)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Operating Data (thousands of tonnes)										
Consolidated aluminum shipments	1,268	1,316	1,520	1,508	1,272	1,374	1,318	1,597	1,532	1,588
Ingot and ingot products	568	537	601	584	560	510	440	615	496	533
Fabricated products	700	779	919	924	712	864	878	982	1,036	1,055
Consolidated primary aluminum production										
In Canada	857	799	792	874	761	493	826	898	709	918
Outside Canada	147	165	224	264	269	299	280	300	354	384
Consolidated aluminum inventories (end of year)	416	399	404	517	612	476	599	518	410	485
Primary aluminum capacity (end of year)										
Consolidated subsidiaries	1,110	1,234	1,261	1,230	1,249	1,236	1,236	1,258	1,347	1,426
Total subsidiaries and related companies	1,938	2,106	2,156	2,115	2,144	2,118	2,118	2,086	1,959	1,930

## Consolidated Income Statement Items (U.S. \$ millions)

Total revenues	1,441	1,529	1,891	2,427	2,313	2,671	3,058	3,738	4,450	5,264
Sales of aluminum ingot and ingot products	284	267	318	448	441	432	448	661	663	886
Sales of aluminum fabricated products	821	922	1,191	1,489	1,355	1,674	1,942	2,315	2,827	3,265
Sales of all other products	277	266	306	400	419	452	486	576	705	841
Operating revenues and other income	59	74	76	90	98	113	182	186	255	272
Costs and expenses										
Cost of sales and operating expenses	1,062	1,161	1,452	1,795	1,831	2,140	2,269	2,716	3,240	3,682
Depreciation	98	94	101	103	111	116	126	138	149	162
Interest	64	69	79	100	105	100	90	88	114	107
Income taxes	38	20	35	101	31	45	136	190	211	393
Other	123	126	148	175	187	204	229	285	322	375
Equity income	9	8	18	11	(13)	(5)	13	5	21	25
Minority interests	(5)	(6)	(11)	(9)	(7)	(10)	(16)	(29)	(29)	(28)
Income from continuing operations	60	61	83	155	28	51	205	297	406	542
Extraordinary gains	—	—	—	27	12	—	—	—	21	—
Net income	60	61	83	182	40	51	205	297	427	542

## Consolidated Balance Sheet Items (U.S. \$ millions)

Working capital	401	468	442	675	807	831	979	1,113	1,275	1,373
Property, plant and equipment (net)	1,224	1,234	1,217	1,329	1,385	1,401	1,460	1,638	1,915	2,441
Investments in companies owned 50% or less	174	178	199	212	215	207	242	227	253	326
Long-term debt	740	798	744	881	971	837	749	691	759	910
Deferred income taxes	142	130	123	181	189	180	267	344	397	514
Minority interests and preferred shares	170	169	110	119	165	165	246	281	277	274
Common shareholders' equity	816	849	953	1,103	1,128	1,293	1,453	1,688	2,030	2,463
Total assets	2,297	2,370	2,449	3,012	3,053	3,147	3,473	3,967	4,490	5,470

## Per Common Share (U.S. \$) Restated to give effect to 2 for 1 subdivision of shares on 31 March 1980

Income from continuing operations	.91	.93	1.23	2.24	.40	.67	2.53	3.67	5.01	6.70
Income including extraordinary gains but after preferred dividends	.88	.89	1.21	2.64	.58	.66	2.53	3.67	5.28	6.70
Dividends paid	.50	.40	.45	.60	.45	.20	.55	.78	1.05	1.35
Common shareholders' equity	12.39	12.88	14.13	15.98	16.25	16.79	17.96	20.86	25.09	30.45
Market price NYSE—Close	9.13	11.38	19.94	10.00	9.69	11.81	13.13	16.94	23.44	33.25

## Other Statistics

Funds from operations (U.S. \$ millions)	158	145	163	309	164	174	425	545	619	831
Capital expenditures (U.S. \$ millions)	155	115	117	268	208	138	251	333	495	752
Employees (thousands at end of year)	61	62	62	64	61	60	61	63	65	67
Common shareholders (thousands at end of year)	70	64	50	48	47	43	40	37	35	37
Common shares										
Outstanding (millions at end of year)	66	66	69	69	71	81	81	81	81	81
Registered in Canada (%)	49	55	46	45	42	53	47	43	39	39
Registered in USA (%)	39	33	45	44	43	34	39	45	53	53
Registered in other countries (%)	12	12	9	11	15	13	14	12	8	8
Return on average common shareholders' equity based on historical cost method (%)	7	7	9	18	4	4	15	19	23	24



# Principal Subsidiary and Related Companies

At 31 December 1980 — Fully owned unless the percentage of ownership is shown

## Operating Companies

### North America

#### Canada

Aluminum Company of Canada, Ltd  
Alcan Canada Products Limited  
Alcan Smelters and Chemicals Ltd  
Alcan-Price Extrusions Limited (50%)  
Revalex (1978) Inc.  
Roberval and Saguenay  
Railway Company, The  
Saguenay Shipping Limited  
Supreme Aluminum Industries Limited  
(27.2%)  
Vic Metal Corporation

#### United States

Alcan Aluminum Corporation

#### Bermuda

Alcan (Bermuda) Limited

### Caribbean

#### Jamaica

Alcan Jamaica Company\*  
Alcan Products of Jamaica Limited  
Jamaican (93%)  
Sprostons (Jamaica) Limited

#### Trinidad

Chaguaramas Terminals Limited  
Geddes Grant Sprostons Industries  
Limited (49%)  
Sprostons (Trinidad) Limited

### Latin America

#### Argentina

Camea S.A.  
Extrusion S.A.

#### Brazil

Alcan Alumínio do Brasil S.A.  
Alumínio do Brasil Nordeste S.A.  
Mineração Rio do Norte S.A. (19%)  
Petrocoque S.A. (25.1%)

#### Colombia

Aluminio Alcan de Colombia, S.A.  
(49%)

#### Mexico

Alcan Alumínio, S.A. (48.72%)

#### Uruguay

Alcan Alumínio del Uruguay S.A.  
(89.92%)

#### Venezuela

Aluminio de Venezuela, C.A. (Alcanven)  
(49%)

\*Division of  
Aluminum Company of Canada, Ltd

### Europe

#### Belgium

Alcan Aluminium Raeren S.A.  
S.A. Alcan Aluminium Benelux N.V.  
Cargo Van International N.V. (50%)

#### France

Aluminium Alcan de France  
Cargo Van S.A. (50%)  
Technal France S.A. (75%)

#### Germany

Alcan Aluminiumwerke GmbH  
Aluminium Norf GmbH (50%)  
Cargo Van Fahrzeugwerk GmbH (50%)

#### Ireland

Aughinish Alumina Limited (40%)  
Unidare Limited (25.5%)

#### Italy

Alcan Alluminio Italiano S.p.A.  
Alcan S.p.A.

#### Netherlands

Hunter Douglas N.V. (25.17%)

#### Spain

Empresa Nacional del Aluminio,  
S.A. (ENDASA) (42.53%)

#### Switzerland

Aluminiumwerke A.-G. Rorschach

#### United Kingdom

Alcan Aluminium (UK) Limited (78.02%)  
Alcan Ekco Limited (39.01%)  
Alcan Enfield Alloys Limited (39.01%)  
Cargo Van Equipment Limited (50%)

### Africa

#### Ghana

Ghana Aluminium Products Limited  
(60%)

#### Guinea

Compagnie des Bauxites de Guinée  
(13.77%)

#### Nigeria

Alcan Aluminium of Nigeria Limited  
(58.21%)  
Alcan Aluminium Products Limited  
(60%)

#### South Africa

Hulets Aluminium Limited (24%)

### Asia

#### India

Indian Aluminium Company, Limited  
(55.27%)

#### Indonesia

P.T. Alcan Indonesia (70%)

#### Japan

Nippon Light Metal Company, Ltd (50%)  
Toyo Aluminium K.K. (50%)

#### Malaysia

Aluminium Company of Malaysia  
Berhad (38.62%)  
Johore Mining and Stevedoring Company  
Sdn Berhad (52.5%)

#### Thailand

Alcan Thai Company Limited

### South Pacific

#### Australia

Alcan Australia Limited (70%)  
Alcan Queensland Pty Limited  
Alcan Queensland Smelter Limited  
Queensland Alumina Limited (21.39%)  
Quintrex Marine Pty Limited (70%)

#### New Zealand

Alcan New Zealand Limited (69.2%)

## Other Companies

### Holding and Financial

Alcan Aluminium (Europe) S.A., Geneva  
Alcan Alumínio da América Latina Ltda,  
Rio de Janeiro  
Alcan Europe N.V., Amsterdam  
Alcan Finances Overseas N.V., Amsterdam

### Research, Technology and Engineering

Alcan International Limited, Montreal  
Research laboratories: Jonquière, Quebec;  
Kingston, Ontario; Banbury, England

### International Sales

Alcan Canada Products Limited,  
Toronto—Canada  
Alcan Alumínio (América Latina) Inc.,  
Montreal—Latin America  
Alcan Asia Limited, Hong Kong—  
Asia (excluding U.S.S.R. and  
Middle East)  
Alcan S.A., Zurich—Continental Europe  
(excluding Germany and Scandinavia),  
COMECON countries, Middle East and  
Africa  
Alcan Metall GmbH, Frankfurt—Germany  
Alcan Lynemouth Limited, London—  
UK, Ireland, Scandinavia  
Alcan Ingot and Powders  
(Division of Alcan Aluminum  
Corporation), Cleveland—USA and  
Caribbean  
Alcan International Limited  
(Engineering Division), Montreal—  
Engineering and feasibility studies, and  
project management, related to the  
aluminum industry  
Alcan Trading (Bermuda) Limited,  
Hamilton, Bermuda—Worldwide;  
trading in aluminum-related products  
Alcan Trading Limited, Montreal—Canada;  
trading in aluminum-related products;  
logistics services.



# Alcan Aluminium Limited

## 10-K Report

A copy of the Company's current annual 10-K Report filed with the United States Securities and Exchange Commission will be available to shareholders after 1 April upon written request to the Secretary of the Company.

## Terms

All amounts are reported in United States dollars and all quantities in metric tons, or 'tonnes'. A tonne is 1,000 kilograms, or 2,204.6 pounds.

'Subsidiary' means a company in which Alcan directly or indirectly owns more than 50% of the voting stock whereas 'related company' indicates a company 50% or less owned.

## Trademark

Aluminum Company of Canada, Ltd. is the original owner of the ALCAN® trademark, also used by other Alcan companies. The trademark is registered in some 90 countries. Its U.S. owner is Alcan Aluminum Corporation.

## Stock Exchanges

The shares of Alcan Aluminium Limited are listed on the Montreal, Toronto, Vancouver, New York, Midwest, Pacific, London, Paris, Brussels, Amsterdam, Frankfurt, Basel, Geneva, Lausanne and Zurich stock exchanges.

The markets where most of the shares are traded are New York and Toronto.

## Transfer Agents

National Trust Company, Limited,  
Montreal, Toronto, Winnipeg, Regina,  
Calgary, Vancouver.  
Mellon Bank, N.A., Pittsburgh.  
Citibank, N.A., New York.  
Morgan Grenfell & Co. Limited,  
London.

## Registrars

The Royal Trust Company,  
Montreal, Toronto, Winnipeg, Regina,  
Calgary, Vancouver.  
Pittsburgh National Bank, Pittsburgh.  
Manufacturers Hanover Trust  
Company, New York.  
The Royal Trust Company  
of Canada, London.

## Alcan Aluminium Limited

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H3C 3H2









